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## ORIGINAL ARTICLES.

### IS VACCINATION WITH BOVINE VIRUS PERFORMED IN ACCORDANCE WITH THE SCIENTIFIC TEACHINGS OF THE DAY?

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To carry out rationally a proper technique in the preparation and use of bovine virus, the nature of the virus must be appreciated as well as the manner in which it confers immunity to individuals inoculated with it. At present, although the active principle of cow-pox virus has not been demonstrated, we can assume enough of its nature to allow of formulating positive rules regarding its management.

After an investigation of thirty years, Edward Jenner, in 1798, gave to the world the wonderful fact that immunity could be secured against small-pox by vaccination.

At that time bacteriology as a science was undreamed of, and knowledge concerning the most common etiological factor in disease production, bacteria, was yet to come; consequently Jenner could not assume facts in regard to the causative agent of small-pox or the active principle of his virus. Could he have done so, it would have allowed him to advance theories in regard to the manner in which immunity was conferred by vaccination and, as a result of these theories, to claim for the methods of preparation, care and use of his virus such a technique as bacteriology has shown us is essential in working with a material such as we assume this virus to be.

Bacteriology has not revealed the active principles of his virus to us, but it has made it possible for us to assume its nature with enough certainty to adopt definite rules for its preparation and application.

Although Jenner was not allowed the benefits of bacteriology, he had learned by observation of the action of his remedy for thirty years, that it was necessary to exercise care in its preparation and application in order to insure safe and reliable results. We find in his original paper (The Origin of the Vaccination Virus, by Edward Jenner, M. D.) such advice as this: "But when taken in a far advanced stage of the disease, or when (although taken early) previously to its insertion it be exposed to such agents as according to the established laws of nature, cause its decomposition, it can no longer be relied on as effectual. This observation will fully explain the source of those errors which have been committed by many inoculators of the cow-pox. Conceiving the whole process to be so extremely simple as not to admit of a mistake, they have been heedless about the state of the vaccine virus, and finding it limpid, as part of it

will be, even in an advanced stage of the pustule when the greater portion has been converted into a scab, they have felt an improper confidence, and sometimes mistaken a spurious pustule, which the vaccine fluid in this state is capable of exciting, for that which possesses the perfect character."

There are many physicians today who might improve their methods of carrying out vaccination by considering the paper from which I quote, although it was written a century ago. It was written in accordance with the best knowledge that Jenner had, and it is allowable for us to apply to his views, theories which the advance of science renders possible.

If, today, Edward Jenner was to bring to the world his discovery, he would assume that small-pox was an infective disease, the result of the invasion of the organism by a specific microbe; and that in the virus used to procure immunity by vaccination, he possessed a material, the active principle of which was either an attenuated form of this micro-organism or a product of its action in the cow.

"Vaccination appears to consist essentially in the artificial growth of a vegetable ferment in an animal, under circumstances unfavorable to its rapid multiplication."—Buist.

"Immunity is most frequently seen to follow the introduction into the body of the products of growth of bacteria that in some way or other have been modified. This modification may be artificially produced from the products of virulent organisms and then introduced into the tissues of the animal; or the organisms themselves may be so treated that they are no longer virulent, so that when introduced into the body of an animal they eliminate poisons of a much less vigorous nature than is the case when they possess their full virulence."—A. C. Abbott.

Pasteur began his researches on artificial immunity with the view that cow-pox virus was an attenuated form of small-pox virus, and that small-pox was a disease of microbic origin. As a result of experiments conducted under this belief, he was able to obtain vaccination virus capable of procuring immunity against several infectious diseases, notably hydrophobia. Others working with pure cultures of known bacteria have been able to establish methods of procuring immunity against many diseases, and the work has but begun. We are in sight of curative and preventive measures against tetanus, pneumonia, diphtheria, anthrax and tuberculosis, and even malignant growths are reported to have vanished under the influence of the streptecoccus of erysipelas and its ptomaines. Pasteur conducts the preparation of his emulsions and the technique of their employment under a conviction that he is dealing with a material of microbic nature, and that in order to secure an action of his remedy, consistent with its nature, a method of procedure is necessary that will allow of little carelessness either in its preparation or its application.

Is the present method of vaccination in accordance with what is scientific and correct? Spend one hour in a Pasteur institute where inoculations are being made and observe the careful technique which the physicians in charge consider necessary to adopt, and then stand for an hour in the vaccinating room of the health department of this or any other city and observe the manner in which the vaccination is done. Why should one not be performed as carefully as the other? They are dealing with material of somewhat similar nature. Vaccination is not being performed at the present time in accordance with scientific teachings. We claim the same careful technique for the preparation and application of bovine virus as is granted the above agents.

As to the improvement of present methods:

1. We can assume that small-pox is an infective disease due to the invasion of the organism by a specific microbe, and that the active principle of Jenner's virus, which gives it its power to procure immunity for the individual inoculated with it, is due to the presence of an attenuated culture of this bacteria, or the product of its action upon organized tissues, animal or human, as the case may be.

This is theoretical—Specific microbes have been claimed for this disease but have not been demonstrated to be its causative agent. And for the virus that produces immunity; "it must be confessed that nothing was known as to the composition of the material by which typical vaccine vesicles are produced, until the researches of Weigert, Klebs, Cohn and Burdon Sanderson rendered it probable, if not certain,

that a "germ" was the active principle in vaccine lymph." (Buist.)

"The etiology of small-pox still remains undetermined. The common pus cocci, and various other micro-organisms are found in the characteristic pustular eruption, and various micro-organisms have been isolated from vaccine vesicles, but no one of these has been shown to possess the specific pathogenic power of unfiltered lymph from the same source.

"The experiments of Carstens and Coert show that the specific virulence of vaccine lymph is destroyed by ten minutes exposure to a temperature of 54° C.

"And the writer's experiments show that various disinfecting agents tested—chlorine, sulphur dioxide, nitrous acid—destroy the infective virulence of lymph dried upon ivory points in about the same proportion as is required for the destruction of some of the best known pathogenic bacteria.

"But this does not prove that virulence depends upon the presence of living micro-organisms, however probable this appears, for certain toxalbumins are likewise destroyed by a correspondingly low temperature, and by the action of various chemical disinfectants." (Sternberg.)

"The nature of the contagion of small-pox is still unknown. Weigert and others have described micro-organisms in the pock, but they are the ordinary pus-cocci, and the part which they play in the affection is by no means certain. Still less definite are the observations on the occurrence of sporozoa in the pocks. It not a little remarkable that in a disease which is rightly regarded as the type of all infectious maladies, the specific virus still remains unknown.

"The precise nature of the vaccine virus is as yet unknown. Several forms of micro-organisms have been isolated, and Buist has cultivated micrococci which, he states, produces in the child a typical vaccine vesicle. Several attempts have since been made to isolate the virus, but without definite success. Ernst and Martin, of Boston, have isolated from the Bovine lymph, a germ which grows on culture media, and produces, when inoculated in the calf, or in children, characteristic vesicles." (Osler.)

The inability of bacteriologists to cultivate the essential microbe of vaccine lymph, Buist states, is due to faulty methods, and not to the mistakes of investigators. He says, "while, therefore, a bacteria of constant form, to be found in clear vaccine and variolous lymph, is probably the cause of variola and vaccine, it appears to be practically impossible to reproduce the same bacterial form by artificial cultivation of lymph in solid media outside the animal body."

The experiments of Buist have led him to conclude regarding the active principle of vaccine virus, that, "the bacteric form of the true vaccine contagion is to be found in the minute isolated spores of micrococci, which are suspended in standard vaccine lymph, and this form must be preserved in artificial vaccine materials; opaque vaccine lymph contains more mature bacteria forms developed from the spores in clear lymph and is to be regarded as a natural cultivation of the true vaccine contagion. The torulæ described in opaque lymph do not exist in clear lymph and their significance is doubtful, and most probably they represent a resting or reproductive stage of existence of the vaccine contagion. The vaccine contagion can be isolated and cultivated apart from the animal body, in both solid and fluid media.

"The pathogenic properties of the vaccine and variolous material depend on the embryonic and mature forms of bacteria which they contain."

2. Inoculation with pure bovine virus produces in a person not immune to small-pox, a characteristic reaction which demonstrates that immunity has been conferred upon the individual inoculated for an indefinite length of time.

The characteristic reaction is usually looked for in the local condition produced, but general symptoms may result from such vaccination.

"When clean vaccine lymph is properly employed, the resulting vesicle is plump, round or oval, and pearl colored, with an elevated margin and a depression or umbilification in its center; and it contains on the eighth day, or even earlier, a material which is identical in appearance and potency with that by which it was originally produced. On the eighth day the vesicle becomes surrounded by a rose-colored zone of inflammation, or areola, which continues to increase for several days, and the clear contents of the vesicle are then found to be opalescent or opaque. The establishment of this areola is re-

garded as a proof of the specific effect of vaccination on the constitution. From the eighth to the tenth day, the opacity of the lymph continues to increase, after which coagulation of the contents of the vesicle takes place with the gradual formation of a dry, brown scab by the fourteenth day. This scab becomes harder, dryer and darker during the third week, when it falls off leaving a depressed circular, or oval cicatrix, which is the natural termination of the process by which the majority of the human race are protected for a life time from small-pox. If such a termination to vaccination should be guaranteed with certainty, its beauty and symplicity could not be questioned."—Buist.

3. The virus (assumed to be due to specific bacteria, or the product of specific bacteria) may become contaminated by other micro-organisms, which will consequently be inoculated with it, and cause a mixed infection which may modify, inhibit or overcome the influence of the virus.

The channels through which the virus may be contaminated are so various that I can only hope to notice a few main sources. I shall not criticise individual manufacturers of virus. The majority of men engaged in the preparation of bovine virus, I assume to be conscientious. I shall simply speak of sources of infection, some of which I believe from reports of vaccine stations are not sufficiently appreciated. Manufacturers can hardly be censured when we consider the manner in which educated physicians carry out inoculations with the virus of their production.

The virus used to procure immunity against small-pox is either a pure culture of the essential cause of small-pox mitigated by having been passed through the calf, or it is a material containing a product of the action of the essential bacteria of small-pox in the tissues of the calf. That the former is true, we are convinced from the fact that filtered lymph has been proven void of the power to procure immunity. Accepting this theory, a pure virus is a pure culture of an unknown microbe, and is only pure when the essential microbe is alone present in it.

That the culture is often not pure in commercial virus, I am satisfied, although in the summary of results Buist claims that no other bacteria but the specific one of the virus will grow in the lymph. "My observations appear to show that when it is taken from a typical Jennerian vesicle, it is a material, in the contagion of which no second principle can possibly reside."

Buist obtained in his cultures a micro-organism of so many transitional forms, that the question of his having obtained a pure culture can be doubted, and hence he is not entitled to assume that but one microbe can be present and active in the material used for vaccination. That, theoretically, in a mixed culture the specific bacteria of the vaccine virus might be able to cope with and conquer the contaminating bacteria, is possible, but, practically, I am sure the opposite is often true and the contaminating bacteria prove the stronger. I feel certain that the virus dried on a point is absolutely unable to exert any combative influence on contaminating microbes which may be deposited upon it, as organic matter in a dry state is inactive. I believe that every one who has any part in the preparation of these points should have had some practical work in bacteriology, and should appreciate the care required to secure a pure culture of any bacteria, which, theoretically, must be accomplished to secure pure virus.

All the criticisms I have to make regarding the preparation or use of bovine virus points, concern methods which will allow of the virus becoming contaminated by micro-organisms other than the essential microbe assumed to be present in it and to be the essential factor in procuring immunity with it. Taking the steps in the preparation of bovine virus points in their order, we start with the points which are to be coated with the virus. The points to be inoculated from the vesicles must be aseptic or we have started wrong, and, of course, will fail in securing a pure virus. Such points are usually of bone—so called ivory points. To secure an aseptic condition of such material, it must be subjected to some anti-microbic influence. We assume it to be infected, as all material must be considered from a bacteriologist's view. The ideal method of sterilization, heat, cannot well be used with such a material, as the influence of heat, dry or moist, for a sufficient length of time, is detrimental to bone. Solutions of the recognized antiseptic agents, carbolic acid, or mercury

bichloride, or absolute alcohol, may be used. The first two have disadvantages in that they may remain in the material in sufficient quantities to inhibit or overcome the efficiency of the virus unless thoroughly removed from the points before inoculation. This, however, can be accomplished by careful rinsing with sterilized water. Absolute alcohol has the advantage of being a good antiseptic, and yet easily removed from the points by evaporation or rinsing with sterilized water. Absolute alcohol would, therefore, be a reliable method of preparing the material ordinarily used for points. That alcohol is a reliable antiseptic has been demonstrated by experimental research and clinical experience. Metal points would have the advantage of allowing disinfection by the only reliable sterilizing agent—heat, preferable in the form of steam under pressure.

Assuming the points to have been absolutely sterilized, there are great dangers of contamination from materials with which they may come in contact subsequent to their disinfection and during the processes they pass through before being sealed for shipment. The hands of the workmen would probably be the main source of such contamination. This source is worthy of consideration. Every day we notice great and learned surgeons—teachers of antiseptic surgery—who, although the most conscientious of men, will, during operations under so-called antiseptic precautions, overcome all the painstaking measures adopted to prevent infection by handling infected materials, never realizing the error, although perhaps at the same instant, addressing their audience upon the necessity of carefully carrying out all details in antiseptic methods in order to prevent infection. Knowing this, can we set aside the danger arising from the workmen in their care of the points, prior, during and subsequent to inoculation, even though the points are absolutely sterilized at the commencement. In many institutions a large number of points are placed in frames before being inoculated, and dried and all prolonged manipulation with the hands dispensed with. But simple contact is enough, and great care must be exercised even with the use of such frames. The workmen should wear a sterilized gown over their clothes, with arms bare, and hands and arms thoroughly prepared by antiseptic measures.

The virus used to coat the points may or may not be pure at the time it is applied to them. The part of the animal inoculated for the purpose of the vesicle production must be absolutely aseptic. All the care is necessary in this preparation that would be adopted in preparing an abdomen for a laparotomy. Shaving, green soap and sterilized water, and scrubbing with a brush, followed by a reliable antiseptic solution. The latter can be removed with sterilized water before inoculation. If such a surface is inoculated with a pure virus, with careful protection of the inoculation lesion from subsequent infection, which must be of great difficulty, we have some assurance that the vesicle produced may contain a pure culture of the specific germ.

The rooms in which the work is carried on, and the stalls in which the animals are placed should allow of frequent irrigations with antiseptic solutions. This is accomplished in some of the stations. But the greater danger, as in all infection, is from direct contact. The animals used for the purpose of virus production are selected with great care by the great majority of manufacturers. They realize the danger of carrying the contagion of tuberculosis and other diseases by the virus. Nevertheless, it is my opinion that this matter should be under close inspection by the government and not too much trust placed in private corporations.

When the vesicles are fully developed and the points are to be coated with the contained virus, nothing but sterilized substances should come in contact with the points or the virus, extraordinary care being taken by the workmen in the antiseptic preparation of their hands. The subsequent packing of the coated points in sterilized tubes of glass closed by sterilized corks, will enable the manufacturer to feel that he has carried out a method of preparation in accordance with the teaching of bacteriology.

If the point leaves the manufacturer in a pure condition, the subsequent condition of the virus and the result of the inoculation lie in the hands of the retailers and the one who uses them. We will simply mention the manner in which these points are retailed by druggists everywhere. Step in a drug store and buy one point, and one will need no words to be convinced that nu-

merous portals for the invasion of contaminating bacteria are opened during the procedure. Drug clerks and the laity who purchase these vaccine points and use them upon themselves and each other, may not be responsible for their ignorant mistakes, but educated physicians should realize that in making use of this most important prophylactic agent they are using material of some delicacy, and should adopt methods for its employment in keeping with the teachings of the day. They know, or should know, how to prevent contamination of vaccine points, and how to carry out the technique of vaccination in a manner that will allow of an inoculation with a pure virus, by the preparation of the site of operation, the use of sterilized water to moisten the virus and a protection of the scarifications from infection throughout the progress of the local lesions. The disinfection of the part should be by the thorough use of soap and water with brush, sponging with absolnte alcohol and then with sterilized water.

No antiseptic should come in contact with the virus, as the active principle is undoubtedly of a nature to be inhibited or made inactive by such substances. The part should be protected, subsequent to inoculation, by some aseptic material which covers but does not touch the scarifications. A sterilized bunion plaster to keep the protecting aseptic gauze from touching the scarifications, the whole dressing kept in place by a strip of adhesive plaster is simple and valuable.

4. The use of impure virus may lead to faulty assurance that immunity has been conferred, from the fact that the contaminating micro-organisms may, by exciting their specific pathogenic properties on the parts inoculated, produce a local lesion which may be mistaken for a typical vaccine reaction, when in reality the vaccine virus itself has been entirely void of any influence whatever.

This is frequently the case, and may mean much or little to the individual or the community according to circumstances. That Jenner knew such mistakes were possible is evident from his own words: "For I now discovered that the virus of the cow-pox was liable to undergo progressive changes from the same cause precisely as that of the small-pox; and that when it is applied to the human skin in its degenerated state, it would produce the ulceration effects in as great a degree as when it was not decomposed, and far greater, but having lost its specific properties, it was incapable of producing that change upon the human frame which is requisite to render it unsusceptible of the *variolous contagion*. So that when it became evident a person might milk a cow one day and, having caught the disease, be forever secure, while another person, milking the same cow the next day, might feel the influence of the virus in such a way as to produce a sore or sores, and in consequence of this, might experience an indisposition to a considerable extent, yet, as has been observed, the specific quality being lost, the constitution would receive no peculiar expression."

5. There is practically no danger in vaccination with a pure virus, but contaminating micro-organisms may be the immediate cause of danger to the part, or the life of the patient.

It is not necessary to insert any cases reported of the evil results following vaccination. They are more or less frequent and few are reported In comparison with the number of vaccinations produced, the evil results of a grave nature are very few. But erysipelas, prolonged ulceration, lymphangitis and suppurative adenitis are not uncommon, and a number of cases of tetanus have been reported. The danger of carrying syphilis has passed with the adoption of bovine virus, but tuberculosis is possible with this material. The fact that cases of serious infection are few does not lessen the responsibility of the physician if, by his negligence, a case occurs. It is his duty to make the few impossible. Considering the total number of hours lost from business, the discomfort and pain suffered by patients, the number of cases sent into the dangers of contagion with the assurance that they are protected by a vaccination which has been valueless as a protective measure, and the cases of death caused by vaccination with a contaminated virus, all of which could have been avoided if everyone connected with the preparation of the virus and its use, had made practical applications of the teachings of bacteriology, the advantage of which physicians of the past could not avail themselves but which at the present time we are masters of, I think the subject is one of real practical importance and worthy of serious reflection.

# COMMUNICATIONS.

## ICTERUS FROM EMOTIONS.*

PROFESSOR PONTAIN, PARIS, FRANCE.

We have at this moment in the hospital, two patients affected with icterus. The one is a rheumatic male patient with a catarrhal icterus; therefore we thought that anti-rheumatic treatment might be of service in his case, and after being for several days under the salicylate of soda, he has become convalescent. The other is a young woman who is not rheumatic, and who attributes her jaundice to a violent fit of anger. Her case may be classed among those cases of icterus which follow emotions.

In this variety one will meet with cases where the jaundice followed immediately after the emotion upon which it depends; in others, as in our patient, the affection is only noticed a few hours or one or two days after. Is the mechanism the same in both cases? Often emotional icterus is accompanied by causes capable in themselves of producing the disease, so that for a long time it was thought to be a mere coincidence or a ridiculous tale.

Still there are cases where the influence of the causative emotion is not to be doubted. I have reported to you several cases of instantaneous icterus. You recall Bouillaud's case: A man was about to shave himself. Suddenly some one comes and informs him of a loss which he has suffered; on taking up his razor he perceives in the mirror that he has become jaundiced. I have already mentioned the case of a young girl who went into a cellar and was unexpectedly bitten by a rat; very much frightened she ran out and was met by a person who noticed that she was icteric. Another case was that of a man who was seized by the Federals and was about to be shot; his wife, who was present, remarked that he immediately became jaundiced when the troops arrived from Versailles and saved him. It is told of a duellist, who, upon the duelling ground, in a twinkling of an eye became so yellow that the weapon fell from the hand of his adversary. Again, a man received a box on the ear; he precipitated himself furiously upon his opponent; he was at once arrested, when it was noticed that he was completely yellow. Still another case was that of a young priest who was present while a mad dog was to be shot; at the moment that he was struck by the bullet, the animal gave a bound into the air, broke his chain and expired at the feet of the priest. The latter, terribly frightened, fell to the earth and arose completely icteric. These are all authentic cases.

Often the icterus does not follow at once. In 1882, I observed at the Necker Hospital, a young girl, who had had a violent fit of anger; several hours after her eyes began to grow yellow and she became progressively icteric. In one case, a woman of thirty-one years had an attack of icterus eight hours after an accident. A physician of Montpelier has recorded the case of the interne of a hospital who was frightened by a comrade who played the part of a ghost. The interne was terrifically frightened by the apparition; the next morning he was jaundiced. The case of a young girl near Bordeaux has been observed, who, impressed with the reproaches of her father, a few hours later became icteric. Dr. Noblet has reported the case of a woman, who, while assisting to unload a wagon loaded with potatoes, all at once saw the man standing in front of her buried under an avalanche of potatoes; she experienced a vivid emotion; the next morning jaundice appeared. Finally, Hardy has called attention to the case of a young hackdriver who allowed his horse to run away; the following morning he was icteric.

An emotion is frequently found to be the cause of icterus, but the importance which it merits has not been attached to it. The nature of the emotion is variable; most generally it is terror. Sometimes, as in our patient, it is a fit of anger. Let us see by what mechanism the icterus is produced.

Instantaneous icterous is easily explained

*A clinical lecture delivered at the Hospital de la Charite, Paris, France. Translated from *L' Union Medicale*, No. 70, 1894, by F. H. Pritchard, M. D.

by the modifications of pressure between the capillaries and the small bile ducts. Normally the pressure in the bile ducts is greater than in the blood-vessels; in animals even without icterus this may be observed. But the biliary pressure is variable, for experiments have not yet given us exact knowledge on this subject. At all events, if the pressure in the ducts be increased the bile rapidly passes into the blood.

You will observe that if one tap the abdomen of a frog with the handle of a scalpel, the blood-vessels will become enormously distended; all the blood of the periphery seems to rush to the abdominal cavity. The same result may be produced by excitement of the cortical nerve centres, as Frank has demonstrated. Thus there is a lowering of the blood pressure in the capillaries of the liver, while at the same time there is an increase in that of the bile ducts and their capillary ramifications. Not every violent emotion is followed by icterus, but as I have stated, the pressure in these ducts is quite variable, now high, now low, and now negative. It is easily seen that if the variations in the blood pressure are to occur when that of the bile is high, icterus immediately follows. Yet these modifications of pressure are by no means all, for, as Laborde has shown, the biliary passages are contractile; any excitation will produce a slow retraction of their walls, with consequent elevation of pressure. Lepine, after introduction of a tube and a manometer into a bile duct, has observed the pressure to rise in a few minutes under the influence of excitement. If every emotion does not give rise to these effects it is because of a reflex influence. Now, reflexes are variable. They may act upon one part or another, they may be diffused, but they especially affect sensitive organs. Instantaneous jaundice has nothing mysterious about it, and is easily explainable.

The same cannot be said when the symptom follows a more or less long time after the emotion. It cannot be explained by spasm, for that would not last so long; again, vascular paralysis which allows the vessels to become distended, only produces a momentary lowering of pressure. Here it rapidly rises from repletion of the vessels. Other causes must be sought for. Now, if one study attentively the cases where the icterus appeared later, one will observe that between the casual emotion and the consecutive icterus the patient presented symptoms of gastric disturbance, loss of appetite, diarrhœa or constipation, headache, pain in the limbs and malaise.

This condition brings about an icteric state from infection of biliary passages, from consecutive tumefaction of the mucous membrane of the ducts even sometimes by production of a mucous plug at the point of entrance of the common bile duct into the duodenum.

But, how is it that an emotion may give rise to a gastric disturbance? This is a fixed fact and you know that prolonged chagrin often causes a loss of appetite; that fear may induce a diarrhœa, etc. An explanation of these facts is a very delicate task. The nervous system affects the movements of the digestive tract, at one time it may accelerate, at another render slow; thus it regulates the circulation and even the secretions of the intestines. Now, the gastric disturbance which produces the icterus is an infectious process, a fact which Chauffard has emphasized. It often appears as an epidemic, local epidemics, domiciliary epidemics. At other times the season exerts a manifest influence. What relation can there exist between an emotion and an infection? Here we return to the astonishment which physicians experience at the beginning of their bacteriological experiments. The relation actually exists and is to be explained. The intestinal tract is filled with injurious substances and microorganisms ready to invade the system; but, during the normal state, the intestinal glands, the bile ducts and the bile itself are aseptic. This condition of things is subject to modification. The glands and ducts may become infected. It seems that the more abundantly a gland secretes, the less liable it is to microbic invasion. Now, the secretions are regulated by the nervous system and this same system may prepare the way for infection. I have, unfortunately, no case in point to cite you, yet this hypothesis appears to me quite rational. As to the biliary passages, they are kept normal by the profuse flow of bile, for the quantity of this fluid which traverses them in twenty-four hours is not less than the quantity of urine which passes through the kidneys at the same

time. The bile itself is antiseptic. Rendu has recently given us a curious example. A patient presented grave hepatic symptoms which led one to think an abscess of the liver present. At the necropsy multiple abscesses were found in the liver, but they were aseptic. The biliary passages were filled with streptococci, but they were inoffensive. Both the inoculations and the cultures remained sterile. Hence the bile may render microbes sterile. Yet this antiseptic property is not always the same. You thus can see how an emotion may be followed by no effect or the very contrary. By transitory and mechanical modifications in one case; by an infectious process in an other. By symptoms limited to the stomach and intestine in one series of cases, while in others they extend to the biliary passages and are followed by icterus.

Again, you see how the prognosis is not always the same. Instantaneous icterus of emotional origin, ordinarily, lasts for five or six days. I know of no case of primary emotional icterus which was followed by severe results. But it is not the same in catarrhal icterus, for a secondary emotional icterus acts quite like the catarrhal variety. In certain cases the two influences are combined and the primary icterus continues as a catarrhal form; this latter may become serious. Examination of the urine in these cases is of considerable importance, for it indicates when the bile ceases to pass over into the blood. In our patient, the color of the stools indicates that the bile is being poured into the intestine, but, the presence of biliary pigments in the urine shows that a certain portion is actually taken up by the blood, and the patient is not yet convalescent. That forms one of the important elements in prognosis. But the state of the kidneys should be especially watched for albumen, and a large quantity of casts are met with in a great number of these cases. A diseased condition of the kidneys is always, in these affections, a source of danger from insufficient elimination of the waste products of the organism. Emotional icterus only becomes serious in those patients whose kidneys are affected beforehand. Catarrhal icterus, as a rule, does not last long enough to cause secondary alterations in the kidneys. Treatment will vary as the icterus is primary, or secondary to gastro-duodenal catarrh. Primary icterus will cure itself if the patient is in a tranquil state of mind. At the hospital, the mere fact of their entering and the consequent repose are sufficient treatment; in city practice one should be on the watch for exciting causes and to remove them. Emotional secondary icterus is treated by laxatives, especially castor oil, and exclusive milk diet. This form of diet diminishes considerably the number of microbes in the digestive tract. But in some patients the digestion is faulty and fatty foods are especially badly assimilated. Here an association of pancreatine with the other measures will render great service.

## MEDICAL TUBERCULOSIS.*

HUGH HAMILTON, M. Sc., M. D., Harrisburg.

Medical tuberculosis is limited by the exclusion of those cases which by surgical interference can be relieved.

Presuming that the constant factor of tuberculosis is the bacillus tuberculosis, its bacteriological determination is essential for the diagnosis of the disease. Having now indicated the field of the subject, it becomes easy to discuss briefly the several forms that demand treatment. The almost invariable presence of the bacilli in those afflicted with phthisical complaints makes one wonder if the bacillus tuberculosus is the universal cause of this fatal condition of the human organism. The system is effected with more or less rapidity not always in accordance with the physique of the individual.

The studies of Koch brought out an immense amount of information, although his original purpose was frustrated and his benevolent hopes unrealized, yet the publication of his postulates stimulated extensive and active research with sure

* Read before Medical Society of the State of Pennsylvania, 1894.

principles upon which to formulate methods of treatment. A digression is made at this point into some of the effects of bacteriological growth and products. The simple growth of vegetation requires heat and moisture. The fungi bacteria require heat and moisture. They secure it at the expense of the normal physiological function that necessarily produces pathological physiological performance. This pathological condition is noted by irritation that shows its presence by sensitive degrees of febrile movement.

The alteration of the albumin present in the body into forms (chemical formula), which before the introduction of germs (bacilli) were inoxous, become through its parasitic existence, toxic—even to the bacterium itself. The object of germ life is to perform a vital cycle—probably best illustrated in vinegar, which live in great numbers in cider, by the germs and by their presence and animation change the saccharine material, through the alcoholic, to the acetous fermentation.

The process of making bread by yeast is another familiar illustration of this fact, stopped in its process by baking heat. Domestic wines are made this way, by stopping the fermentation in the alcoholic stage. Now observe that both *vinegar* and *alcohol* are antiseptics, preserving from decay vegetables and flesh.

Now the product of certain bacteria are *indol* and *phenol*—"antiseptics" we call them—should they in their cycle of living produce these by-products beyond the normal, they would cease their active career, provided no new albumins were offered for their consumption.

The *Tuberculin* treatment of tuberculosis disturbances in the coarser tissues was to a degree successful. Was it because those muscular tissues were firmer and changes in them slower? The application of these by-products locally in lupus, etc., had singularly fair results. In the lung tissues of a finer and more delicate character, it was impossible to reach the nidus of disease without also exciting an intense influence upon the general system. Whether the balance of the by-products to the life of the bacilli in lupus was so disturbed as to destroy the bacillus tuberculosis, remains beyond my ken—but it is a thought.

An alga in water previously used by an alga dies from its constantly used supplies of nourishment, and the excretions or by-products of its existence. Analogically, an animal would die in a closed vessel from the inhalation of his own exhaled carbonic dioxide—a by-product.

The art of Japanese horticulturists that produce dwarf, undeveloped fruit trees is well known. Can we stunt or stop the growth of these parasites by cutting off their supplies? We have succeeded in surgery to such an extent that the continuity of healthy tissue is separated and repaired at pleasure by following the simple rules of modern surgical practice. There is no pus in pure surgical interference. "Healthy pus!" who ever hears that phrase now?

Strumpel, measuring the irritation in consumptives, from the febrile movement observed in thermometic records, divides them into five classes:

| CLASSES. | MORNING. | EVENING. |
|---|---|---|
| I. Sub-fever | N | 100.4 to 101.8° F. |
| II. Hectic intermitt. | N+ | 101.3 to 104. |
| III. Remittent | 100.4-101.8° F. | 103.1 and upward. |
| IV. | Continuous | Fever. |
| V. | Irregular | Fever. |

When we change the climate by altitude or latitude, *i. e.* returning the individual to his geographical place, we allay the ravages of the bacilli for a time.

We attempt and succeed when we send persons to the dry Colorado plains or the altitudes covered by balsamic pines. Where these are not possible, the application of the several essential (odorous) oils or their acid derivatives inhaled regularly, with generous diet and discipline of the general habits, we find an average rising from 50 to 80 per cent. benefitted and have their lives prolonged. The United States is rich in varieties of climate suitable for persons with pulmonary disease.

Respecting the contagiousness of tuberculosis there can be no question. The German police ministry promulgated detailed orders in 1891, which have been copied; and we are now agitating the populous cities of New York and Philadelphia to adopt them. The enforcement in Germany of this proclamation has already attained gratifying results; and the next twenty years will testify to its great wisdom. Compulsory vaccination has almost eradicated variola from the schedule of the national calender diseases of Prussia.

To sum up this matter:

1. Bacteriological diagnosis of the disease is essential.

2. The pathological process offers inducements of success in germicidal local treatment—which has succeeded so efficiently in modern surgery.

3. That the febrile movement should be diligently studied, both without and with active treatment, as insisted upon by Strümpel.

4. That climatic and sanitary conditions are necessary in the *whole* individual.

5. That every effort toward preventing the dissemination of *dried* sputum should be used.

# TRANSLATIONS.

## THERAPEUTICAL SUGGESTIONS FROM FOREIGN JOURNALS.*

### RECTAL INJECTION FOR DYSMENORRHŒA.

Dr. C. von Rokitansky (*La Semaine Mèdicale*, No. 48, 1894) recommends as a useful measure, the following rectal injection in dysmenorrhœa:

℞

| | | |
|---|---|---|
| Extr. Opium | 0 \| 05 | (gr. ¾.) |
| Powdered Camphor | 0 \| 30 | (grs. v.) |
| Yolk of One Egg. | | |
| Water | 150 \| 0 | (℥iv. ℥v.) |

Sufficient for one injection.

### GLYCOSURIA AFTER CHLORALAMIDE.

Dr. C. Manchot (*Hospitals-Tidende* No. 26, 1894) has for a year examined the urine of all delirious patients at the Hamburg-Eppendorf Hospital, who received chloralamide in doses larger than three grams and whose urine was before free from sugar. In 214 cases there were 54 whose urine contained sugar. Out of 76 who received six grams a day the urine of 6 contained sugar; in 45 out of 135 who took nine grams, and in 2 patients who received twelve grams, per diem. The sugar persisted in the majority of cases from one to three days, once nine days, while sometimes it only lasted for a few hours. The quantity varied, but a combination of the fermentation and polarization tests found in twenty-one of thirty-six carefully examined cases, 0.2 to 0.5 per cent.; nine times up to 1 per cent.; five times 2 per cent.; once 2.2 per cent.; in one single case five per cent. was discovered. (352.8 grams, per diem). This patient has received six grams a day and had glycosuria for three weeks but recovered completely. Patients who had once presented glycosuria after the drug were easily liable to suffer from its repeated use; yet others on the contrary were free. Therefore there must be an individual predisposition. All these patients were alcoholists. Experiments on rabbits demonstrated that a daily dose of two grams would give rise to transitory glycosuria.

### SUBLIMATE IN DIPHTHERIA.

Dr. Raubitschek (*Norsk Magazin for Laegevidenskaben*, No. 1894.) advises, in the treatment of whooping cough, the local application of 1 per cent. solution to the base of the tongue, tonsils and fauces. A tuft of cotton is dipped first into the solution and the fluid pressed out at the root of the tongue so that it runs down over the epiglottis and adjacent parts. In ordinary cases the proceedure may be repeated every other day, in grave cases every day. In fourteen cases where this method was tried, including three of his own children, of two to eight years, rapid improvement and a cure followed in a few days. There is no danger of poisoning. (?).

### FALLING OUT OF THE HAIR AND TRICHOPHYTIASIS.

Dr. Brocq (*Le Progrès Mèdical* No. 16, 1894) recommends in falling out of the hair and trichophytiasis, the following prescription:

℞

| | | |
|---|---|---|
| Carbolic Acid, Chloral, Tr. Iodine, ãã | 100 \| 0 | (℥iij ℥j |

Apply locally every week once, in falling of the hair; in trichophytiasis, three or four times a week.

*In charge of the Translator, F. H. Pritchard, A. M., M. D.

### TREATMENT OF THE OBSTINATE CONSTIPATION OF CHRONIC TUBERCULOSIS OF THE PERITONEUM, INTESTINES AND MESENTERIC GLANDS IN CHILDREN.

Dr. Th. Escherich (*La Semaine Médicale*, No. 47, 1894) speaks highly in the treatment of the associated chronic constipation of chronic tuberculosis of the peritoneum, etc., in childen, of the following formula :

℞

| | | |
|---|---|---|
| Sulphate Atropine.. | 0 | 003 (gr. 1-20). |
| Water..... | 100 | 0 (℥iij ℥j). |
| Gum mixture ..... | 20 | 0 (℥v). |

A teaspoonful twice a day.

To obtain the desired effect this mixture should be continued for a long time; if necessary, it may be associated with a purgative. It is a matter of course that during its administration the pupils should be carefully watched.

### TREATMENT OF TAPE-WORM IN ADULTS.

Dr. Léméré (*Le Mercredi Médical*, No. 32, 1894) praises the following formula in the treatment of tape-worm in adults :

℞

| | | |
|---|---|---|
| Ethereal Extract Male Fern | 6 | 0 (℥jss). |
| Calomel..... | 0 | 60 (grs. ix). |
| Distilled Water..... | | |
| Gum Syrup..... | 16 | 0 (℥iv). |
| Powdered Gum Arabic q. s. to form an emulsion. | | |

To be taken at one time, in the morning, shaking well before taking. Keep the patient absolutely quiet and on a milk diet for twenty-four to thirty-six hours before its administration.

The worm will be expelled, without any disagreeable sensations, in thirty to thirty-five minutes after taking the remedy.

In children of six to twelve years the dose is four grams (℥j) of the extract of male fern and forty centigrams (grs. vj) of calomel.

### TRAUMATIC EPILEPSY CURED BY IODO-MERCURIAL TREATMENT.

Dr. Dougall (*La Semaine Médicale*, 47, 1894) has obtained a complete and definitive disappearance of epileptic attacks of traumatic origin, in a child of twelve years, by the following formula:

℞

| | | |
|---|---|---|
| Sublimate..... | 0 | 12 (gr. j¾). |
| Iodide Potash..... | 7 | 50 (℥vj grs iij). |
| Infusion Gentian..... | 180 | 0 (℥v) |

One teaspoonful after each meal.

For ten days the child took three teaspoonfuls every day, after which the dose was doubled. A cure was obtained in six weeks.

### DIURETIC AND HEART TONIC FOR CARDIAC INSUFFICIENCY.

In the *Revue Internationale de Bibliographie Médicale*, No. 11, 1894, the following formula is offered as an efficient diuretic and heart tonic, in cardiac incompetence:

℞

| | | |
|---|---|---|
| Infusion Juniper..... | 300 | 0 (℥xj). |
| Acetate Potash ..... | 250 | 0 (℥ viij). |
| Powdered Digitalis Leaves | 60 | 0 (℥ß¾). |
| Powdered Squills ..... | 30 | 0 (℥j) |
| White Wine..... | 240 | 0 (℥vijss). |
| Rectified Alcohol..... | 30 | 0 (℥j). |

To be taken by the dessertspoonful.

### AN ANTIDOTE TO HYDROCYANIC ACID.

Dr. J. Antal (*La Semaine Médicale*, No. 48, 1894,) states that the nitrate of cobalt is a very efficacious antidote to hydrocyanic acid. In a watery ( ½-1 per cent.) solution it has the advantage not only of neutralizing the acid in the stomach, but also that in the blood. Even if taken in large quantities is absolutely harmless. This salt of cobalt is eliminated from the organism as rapidly as it is absorbed from the stomach. In case of poisoning by this acid he would advise, basing himself upon experiments on dogs and rabbits, subcutaneous injection of twenty to thirty ccms. of a ½ per cent solution of the cobalt salt, while it may be drunk by the glassful.

### APOCYNUM CANNABINUM IN HEART DISEASES.

Dr. Glinski (*Gazzetta Degli Ospedali*, No. 82, 1894,) by experiments on animals has found that the root of apocynum cannabinum contains a violent poison, which, in large doses, paralyzes the heart, and, in small quantities retards and strengthens its beats. Basing himself on these results he experimented upon himself, for he suffered from hypertrophy of the left ventricle, with intercurrent attacks of dilatation of the heart, mitral murmur, dyspnœa, etc. He then took fifteen drops of the fluid extract, three times a day. Having observed that all of his symptoms disappeared in two days, he experimented on other cases having palpitation and disturbed compensation, where strophanthus and adonis vernalis were without result and digitalis seemed contraindicated. He reports the details of his cases and concludes as follows:

1. Apocynum cannabinum root appears

to have an action similar to that of digitalis, without cumulative action.

2. In cases of dilatation apocynum rapidly diminishes the area of dullness.

3. It increases the quantity of urine, causes the palpitation to disappear, and promotes the absorption of exudates.

4. Beyond a sensation of increased pulsation in the arteries of the head, he has observed no disagreeable effects.

It may be used as a decoction, three or four spoonsful a day; the tincture (1:40) five to ten drops, three or four times a day; or, the fluid extract, in a dose of ten to fifteen drops, three times a day.

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ERUPTIONS FROM IODINE.

Dr. Szadek (*Gazzetta Degli Ospedali*, No. 82, 1894,) distinguishes five forms of iodic eruptions: the erythematous, the papulo-pustular, the bullous, the tuberous and the hemorrhagic.

The erythematous form is characterized by extensive desseminated areas in various regions of the body, particularly on the forearms. If the iodine be continued it may become transformed into the papular variety, which, with the pustular eruptions, is usually observed on the face and scalp; it greatly resembles that following the bromides, except that the confluent form is very rare.

The bullous variety is observed as large disseminated bullæ upon the head, face, neck, extremities and trunk. If the drug be continued, and especially in large doses, the bullæ takes on a purple-reddish color, and become filled with sero-pus, mixed with blood.

The tuberous form is not different from urticaria and erythema nodosum, but it is more striking and less circumscribed in large and elevated nodes. It is localized chiefly on the head and lower extremities. This form sometimes passes over into the ulcerating variety.

The hemorrhagic form as a rule is not severe and is situated upon the legs. Generally, it develops at the beginning of the treatment and it may follow small doses.

The writer has observed two peculiar cases of iodic exanthem. In one the eruption consisted of large and disseminated elevations and bullae, upon the extremities; in the other hemorrhagic exanthem was produced by small doses of the iodide and was upon the trunk and extremities. The variability of the iodic eruptions renders their diagnosis difficult. All the lesions usually disappear a few days after discontinuance of the drug.

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TREATMENT OF OBESITY BY THYROIDIN.

Dr. Yorke-Davies (*Hospitals-Tidende* No. 32, 1894,) in a number of patients under treatment for obesity, where the usual measures were unsuccessful—exclusion of fatty and increase of nitrogenous foods—treated them with the extract of thyroid glands. He administered three tablets a day, with the following result: One patient, who with dieting alone, only lost two and three-fourths pounds, under the thyroid extract, in two months lost twelve pounds. Another lost with diet alone, in one month, three and a quarter pounds; under the extract, in six weeks, nineteen and one-quarter pounds. A third lost, in a month, six pounds; under thyroid treatment, in the same time fifteen pounds. A fourth, in three weeks six pounds; with thyroid extract, in the same time, twelve pounds. A fifth, in two months, with dieting fifteen pounds; in three months with thyroidin, twenty-seven and three-fourth pounds. Finally, a sixth patient, with diet, in two months, fourteen pounds; with thyroid extract, in a month, eight pounds. (Dr. Dale James *British Journ. Dermatology*, June, 1894, has reported glycosuria with nervous depression and frequent attacks of cerebral congestion, after the use of thyroid extract in an inveterate case of psoriasis: Polyuria has also been frequnetly noticed.—Ed.)

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**Cutaneous Absorption. (Fubini and Pierini.)**

The various experiments done by the authors goes to show that the healthy skin does not absorb non-volatile substances. After an immersion of both arms and forearms for half an hour in five per cent. solutions of sodium salicylate, and five per cent. solutions of potassium iodide, the urine contained neither salicylic acid nor iodide. The posterior extremities of guinea pigs were immersed for one hour in a two per cent. solution of nitrate of strychnine and a 1 in 400 solution of sulphate of atropine without strychninic symptoms, and without mydriasis.—*Canadian Practitioner.*

# THE MEDICAL AND SURGICAL REPORTER

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SATURDAY, SEPTEMBER 15, 1894.

## EDITORIAL.

### PRIVILEGED CONFIDENCES.

Judge Cole, of the Supreme Court of the District of Columbia, recently rendered a decision holding that physicians and lawyers, when called upon in court, are not exempted from giving testimony on the ground that such information was professionally confidential.

Think of it! A learned judge compelling the violation of sacred honor, to obtain, forsooth, some evidence in a *divorce suit*. The subject will bear consideration.

The usefulness and good repute of the physician is based upon his worthiness of trust, the care with which he keeps his own counsel and the secrecy with which he preserves the confidences of his patients. No matter what may be his technical skill, if the physician fails in that good faith which preserves inviolate those communications made by his patients in all confidence, and which are indispensible to the performance of his professional duty, he will lose his good name and usefulness in the community in which his work lies, and will be disqualified for successful work in the profession in which trustworthiness and the keeping sacred of confidential communications is the one potential factor of success.

The extent to which these communications are and should be privileged by law, is of interest to the medical profession.

At common law, information given in confidence by the patient to a physician is not privileged; but in various States communications made by a patient to his physician or surgeon, and information acquired by him while attending a patient in a professional capacity, and which were important to enable him so to act, are protected by statutes. The privilege extends to facts necessary to enable the physician to prescribe. Such facts are privileged whether learned directly from the patient himself or acquired by the physician through his own observation or examination.

The object of these statutes seems to be to place the communications made to physicians in the course of their professional employment, upon the same footing with communications made by clients to their attorneys in the course of their employ-

ment. They protect with the "veil of privilege whatever, in order to enable the physician to prescribe, was disclosed to any of his senses, and which was in anyway brought to his knowledge for that purpose." Whenever evidence comes within the purview of these statutes, it is absolutely prohibited. Death does not remove the seal of secrecy from the communications and disclosures which the patient makes to his physician.

Until protected by statute, courts cannot exercise judicial power in forbidding the disclosure of confidences held secret by physicians.

In criminal cases the law is not well settled. In some of the States, as in California, the provision is expressly limited to civil cases. In New York the privilege of such confidences is extended to criminal cases. The following New York Supreme Court decision is one accepted as authority in that State and is frequently quoted in interpretation of the statutes of other States. In this case the Supreme Court (Landon, judge) gives the history and the law governing in the case as follows:

"On the night of the 18th of June, 1888, the defendant called upon Dr. Crounse, a person duly authorized to practice physic and surgery, and employed him to attend Mary A. Brower. The defendant was urgent. The doctor testified that upon coming into his office the defendant said:

"For God's sake hurry up, my wife has a fit, or fainted or something, I don't know what." He said: "Probably you would like to know what the difficulty is before you leave the office."

I said, "Yes, it might be a help to me because I might need something that I would not take with me."

He said, "This lady down to the house I am living with, I am not married to, but expect to get a divorce from my other wife and get married. This lady is about three months gone in the family way and she introduced a catheter, with a wire, in her womb, and after she had introduced it far enough to hurt her, I blew in it.

I said, "What did you blow in it for?"

"I done it before and it worked all right."

The doctor found the patient in a dying condition, and she died in about half an hour.

Two physicians who made the autopsy, testified that, in their opinion, the woman died from shock caused by the injection of air into the uterus. Aside from the testimony of Dr. Crounse there was no evidence tending to connect the defendant with an operation to procure miscarriage."

In rendering a decision in this case the Court said: "The defendant employed the physician to try and save Mrs. Brower's life. His alarm and anxiety were great. He knew what had taken place, and suspected that it was the cause of her sudden prostration, and felt that the physician ought to know it and to govern his treatment accordingly. The physician did want to know. In this critical moment, with the sole purpose of saving the woman's life, he disclosed the secret to the physician to make him to act rightly. To have withheld the disclosure would have made the defendant a consenting party to the woman's death. We have no doubt that the statute, both in its letter and spirit, protects the confidence thus reposed in the physician and forbids him to betray it."

With this testimony stricken out there remained practically nothing to sustain conviction.

The strict construction by the court of the statute would seem in this case not to have served the ends of a strict justice. Carefully studied in all its bearings the wisdom of the decision is clear. As human affairs run no statute, no matter with what wisdom framed, can meet all

and every exigency or be free from certain ultimate evils.

Many of the States, Pennsylvania among them, are without such a statute.

The greater portion of our legislation is the work of lawyers—they are the framers of our statutes, and they follow but a very natural human tendency when they frame them in the interest of their profession. Unfortunately the extent of this character of legislation is not limited to privileged communications. There is better logic, there are more sound reasons of public policy in support of privileging the communications to physicians, than can be advanced for the protection of the confidences of client and attorney. Not but that they too, for very strong reasons of public policy, should be privileged.

Aside from reasons of *policy*, there are the strongest of *ethical* reasons that the confidences between patient and physician should be protected. The relation of physician and patient is a peculiar one, and, from its very nature, requires absolute confidence. He is the trusted custodian of individual and family secrets and he cannot without breach of high moral obligation divulge them. The law should not step in and unseal his lips and force him to give information gained in the privacy of the sick room and under the stress of disease. If in exceptional instances such information promotes the ends of justice, as a rule it works mischief and injustice.

In this connection the example set by the Legislatures of a number of the States is a good one. It is but simple justice to physicians and surgeons that these confidences, which are inseparable from their very relation to their patients, should be respected and protected by the law. If such a law is in accord with sound public policy and serves the ends of public justice in the great state of New York and in other States, it would do same in Pennsylvania. The information gained by the physician from his patient is needed for the intelligent discharge of his duties, is given in one of the most intimate of human relationships, and the law should forbid its being heralded to the world by being testified to in open courts and spread upon public records. It is not a matter that can safely be left to the discretion of courts, however enlightened many of them maybe in the equities, the principles of public policy and justice, and the proprieties and ethics of the profession. Such practice multiplies conflicting precedents and leads to the confusion, rather than the simplifying of the law.

There is no class of men in any of our communities who do more to protect society against the wicked and forbidden practices of the depraved and criminal, than do physicians. They have an interest in the moral welfare of communities as well as in the physical health. Moral disease, with its contagions, comes as close home to them and their families as to others of the community. Therefore it is no argument that protecting the confidences between the physician and his patient would tend to shield crime.

The confidences existing between the physician and his patient have as strong grounds, as logical reasons for legal protection as privileged confidences, as have those existing between the attorney and his client, and there is nothing our law makers would so strongly and bitterly resent as a betrayal of the confidences *they* are forced by conditions to repose in their physicians. Such exposures would blast many a political career.

---

**Suppositories for the Treatment of Chronic Constipation in Infants.**

DR. STARR.

℞ Extract of belladonna..... gr. ss
Aloes..... gr. x
Cocoa butter..... 5 jss

F. S. A. 12 suppositories.—1 or 2 suppositories to be introduced daily.

# ABSTRACTS.

## NOURISHMENT IN ACUTE AFFECTIONS.

ALFRED K. HILLS, M. D., NEW YORK.

If we would succeed in the treatment of diseases in general, we must take into account the fundamental principles upon which all organic life must depend, viz., the pabulum upon which the tissues are fed, and the varying circumstances under which the functions are affected by the various elements known as foods.

In our daily practice we are constantly met with the question: "What shall we give the patient to eat?" and its solution is sometimes a difficult one.

Naturally, the patient, the friends and the nurse all look to the physician to give explicit directions as to what articles of food are proper in a given case, just how it shall be prepared, and the frequency with which it shall be administered.

The form in which we shall offer nourishment to our patients acutely ill is of the first importance, after deciding as to the kind required in the particular case, and its suitable preparation is next in consequence.

It is absolutely necessary that the physician should not only be able to select the kind required, the form in which it should be exhibited, but he should also know how to prepare it, and be able to give intelligent directions to a suitable person to perform this service in a manner acceptable to the patient, who may be whimsical and difficult to please.

It does not matter particularly how we may classify our articles of food, so long as we bear in mind that *water* is of prime importance in the restoration or maintenance of organic function, and that salts, fats, sugars, starches and albuminoids must come into the account and receive that careful consideration necessary to the individualization imperatively demanded for satisfactory results.

It is an easy matter to generalize, and even to form classes, but it is oftentimes a most difficult matter to individualize cases for the purpose of treatment,

If we stop to consider the physiological fact that the human body is two-third water, and that this ratio must be maintained for healthy functional activity, it stands to reason that any variation from this standard must be at the expense of the solids of the body. Many cases of disordered digestion are due entirely to lack of sufficient water. Physiological experiment has demonstrated that mormal digestion in a healthy organism requires a pint of water in some form with each meal, and that any variation from this rule will be at the expense of the digestive powers. The majority of people are better off for water between meals when in health, and while there is no danger from taking water in large excess, at the same time it is hardly worth while to augment the bulk of the body to such an extent that it becomes burdensome. Of course we should not overlook the importance of intense thirst as a symptom of diabetes, and treat it accordingly.

In acute affections it is better to flush the intestinal canal with water, hot or cold, according to indications, and I know of no precautions in this respect which should be exercised. Water not only helps to clean the stomach of its contents, and aid in the digestion of food, but when taken up by the blood vessels, aids in normal nutrition and removes effete matter from the circulation by increasing the mobility of the fluids, thus relieving congestion of important internal organs.

The refreshing draught of fresh cool water should not be withheld from our parched fever patients under any circumstances, and they should be even urged to increase the quantity. The physician should see that it is offered, whether it is asked for or not, in all cases.

In cases of acute catarrh of the stomach, there is no agent which gives so prompt and durable relief as water, sipped as hot as it can be borne, and this will apply in a great number of affections, especially where the stomach is irritated in this way. Hot water quenches thirst better than cold, but we should bear in mind that it is an excitant.

It will not do attempt to substitute

alcoholic stimulants, tea, coffee, or even milk, for pure water, as they will serve in place of this important agent.

Our female patients may be induced to take more water it we convince them that rotundity of the body depends upon a suitable quantity of water, and that the blood vessels, when kept filled with a sufficiency of this fluid, will retard the wrinkling of the skin, which is the bane of every woman who cares for her personal appearance. We should, I think, impress upon our patients the fact that healthy function, not only as regards digestion, but in respect to all other functional activity, absolutely depends upon the water ingested.

There is no drug which will act more effectually—and certainly the action is more kindly—than water, in those acute affections where the liver is torpid, bowels inactive, tongue heavily coated, etc.; but the quantity ingested must be large, sometimes enormous, and in some cases as hot as it can be borne. Even when the liver is overactive, there is no remedy which so favorably clears out the bile and hastens convalescence as water, and there can be no unfavorable reaction, as there may be when drugs are used for this purpose.

I am confident that the kidneys, the great sluice-way of the body, may be saved from serious consequences, in many cases, after acute illness, especially in scarlatina and other exanthematous affections, by the free and methodical use of water internally.

We are often called upon to treat cases of nephritis in its various forms, in which the primary lesion was in the liver, which would have been prevented by the timely and proper exhibition of this simple remedy, and I know of no means which act so favorably, even in the advanced stages of the disease, washing out the life-destroying urea, and preventing or mitigating the terrible convulsions, which so often result in consequences so painful to witness.

Let us therefore bear in mind that the body needs cleansing internally as well as externally, and that there is no agent equal to *pure water* for this purpose.

The various mineral waters, of which we have a great number, should be studied for their specific individualities, and prescribed in accordance with this principle.

Of the artificial mineral waters, I know of none which are so satisfactory, reliable and trustworthy as those made by the well-known house of Carl H. Schultz. The water used in their manufacture is distilled, the formulæ are exact counterparts of the natural waters, they are fully charged with carbonic acid gas, and are in every respect just what they claim to be. I am justified, I think, in commending these waters to you, since I have used them to a large extent for more than twenty years.

The individualization of articles of food as respects the disease we are treating is important, and we should also carefully consider personal idiosyncrasy in our selection, as the great variety of foods at the present day, of more or less nutritive value, enable us to do. We find, however, that iron-bound rules respecting these matters will not answer practically, but that an enlightened intelligence must be used in all cases.

We ought always to keep in mind, in prescribing the diet for our patients, the modern physiology of digestion, as it appears in the light of recent investigation.

I often find that stomach indigestion is caused by insufficient mastication, the great majority imperfectly performing this act, so that the stomach is taxed beyond its power in the process of disintegration of those articles of food which should be hydrated at this point, thus throwing, perhaps, the work upon other organs which would be done here if the act of mastication were properly performed.

We ought also to bear in mind prescribing pepsin, that an acid medium is required for its activity, that it should never be combined with an alkali, and that hydrochloric acid should sometimes be added.

If we stop to recall the fact that starches should be digested by the salivary secretion, we will realize not only the importance of thorough cooking of articles containing starch, but also the necessity of allowing sufficient time in mastication for the mass to become properly intermixed with the saliva necessary to digestion.

Acute intestinal indigestion is often due to faulty mastication of foods containing starch, or which have not been sufficiently cooked to admit of their easy digestion. While we may be sufficiently conscious of the fact that all food must assume the soluble state before it can be taken up for assimilation, I am confident that we shall

find that the great majority of our patients do not accomplish this result.

The habit of rapid eating, hence faulty mastication, is a more important element in the cause of many diseases than is generally supposed. I have found that I get on much better in the treatment of patients since I realized the importance of mastication, and I try to convince them of this fact by explaining its physiology in a way which they can understand, as I find they are more likely to overcome the habit—not an easy thing to do—it they understand the reasons which underlie the subject.

Patients acutely ill will tolerate fats only when presented in the most delicate forms, such as cream-vichy, the yolk of egg with vichy, or vichy and milk. Sweet, fresh butter is an excellent form of fat when it is tolerated by the palate.

Cane and beet sugars must be inverted by the addition of a molecule of hydrogen before they can become as soluble as grape sugar and maltose, hence, they are more difficult of digestion than the lower forms of sugar, and should be used sparingly, if at all, as they are subject to acetous fermentation, which is irritating.

Grape sugar, milk sugar, and maltose are the ideal foods in this line, as they are easily soluble and readily absorbed.

Milk sugar, which is subject to lactic acid fermentation, is greatly to be preferred in the diet of the acutely ill, to cane sugar, which gives an acetous fermentation, for reasons which are obvious. For this reason I have suggested that milk sugar should be used in the preparation of kumyss, a point which some manufacturers have promptly utilized with great satisfaction.

Grape sugar, which is so important and useful in the treatment of the acutely ill, can now be obtained in a concentrated, unfermented form, without having been boiled, and absolutely free from any extraneous preservative whatever, from the California Grape Food Co., of Los Gatos, Cal., or from druggists generally. This grape juice is a great boon in the sick room, and is furnished in two varieties—red Zinfandel, not very sweet, and white Muscatel, having the well-known properties of this delicious grape.

It may be combined with various agents for use, but it is especially delicious with clysmic, vichy, or other mineral waters.

Grape juice, a compound of water, sugar (chemically dextrose), acids, salts, etc., exhibits all the proximate principles required for nourishment of the human body, resembling milk.

Grape sugar, the final physiological form of all starch and sugar, thus represents the simplest nutrient of its class for assimilative purposes, and we should take this fact into account when prescribing starchy foods, potentially sugar, and which must be converted to grape sugar before they are taken up, by taxing the digestive functions of Brunner's and Lieberkuhn glands for twelve to twenty-four hours or more.

Persons acutely ill oftentimes secrete very little saliva, so that starches are acted upon but slightly, if at all, and then grape sugar or glucose, in some form, is imperatively demanded. The grape, as an article of food in these cases, is excellent; but in the grape juice, as prepared, we have always at hand, in a most convenient form, all the qualities to be obtained from the grape itself, and at a reasonable price, which, at certain seasons of the year, is an item of importance to some.

I am in the habit of using syrup of glucose in place of cane sugar in many instances. I can see no harm in the artificial conversion of starch to glucose, by means of sulphuric acid and lime, so long as we are given a pure article. In commerce it may be obtained in its pure state as a syrup, or with dextrine, as desired, when it will appear in a sold state, and is furnished in cakes. The syrup is not as intensely sweet as cane sugar, and it requires more, of course, to be used for sweetening purposes, to satisfy the palate, but it is easier of digestion, accomplishes better results, and is less liable to produce indigestion. I add a teaspoonful or more, as desired, to a glass of milk, or any other vehicle, and, as a rule, patients are satisfied with it, and never any unpleasant results follow.

In acute affections the various fruits are refreshing, and give variety, according to individual idiosyncrasy, and are useful, not only for the water they contribute, but for the sugar, citrates, malates and tartrates of potassium which they contain in varying proportions, all useful under certain circumstances and conditions. Grapes certainly stand first in food value, not-

withstanding the fact that the banana* is the more nutritious, but the latter is much more difficult of digestion, and should be allowed with caution.

Figs and dates contain sixty per cent. sugar and six per cent. albuminoids, and are valuable as foods when indicated.

In the class of starchy foods we have a great variety to choose from, depending upon what we wish to accomplish, and upon the palate and digestive power of our patient. We have numerous prepared foods, of which Mellin's is a good example, for use where the digestive powers are impaired. Arrowroot makes a bland mucilaginous food, which, when combined with milk, answers a purpose, when the more pasty starches would not be tolerated.

Steamed rice with plenty of milk makes an excellent food combination, and a baked potato which is mealy, with plenty of salt to offset the potash which the potato contains, are both good forms of starch. Gruels made with the various cereals and combined with milk, or with diluted cream, as the case may require, are excellent foods for the acutely ill. Of course, it is necessary to individualize our cases for special purposes, but the most nourishing gruel for general use is made from the entire wheat.

Johnson's Educator Crackers, made with the entire wheat, either whole or powdered, according to circumstances, and eaten with milk or cream, make not only a nutritious dish, but are most agreeable to the palate of some.

Where more fat is desired, as the patient prefers, corn or oaten meal may be used for gruel, and the nutritive proportion can be augmented at pleasure by the addition of milk.

In the treatment of acute diseases we should not despair, but always bear in mind that death is a failure of nutrition, and that convalescence is more rapid where wasting is the least. Patients often drift into a critical condition simply from lack of proper feeding; foods are given which are disliked or not tolerated, and we, as physicians, should find out the reasons for all these things, so that we may not have to look back upon a life lost through starvation!

* Nitrogenous matter, 4.820; sugar, etc., 19.657; fat, 0.632; cellulose, 0.2200; saline, 0.791; water, 73.900. N., 1–20; sugar, 1–5; water, 4.

The digestive powers are always impaired when one is ill, the ferments of the stomach may be powerless for digestion, and to pour in foods under these circumstances would be useless in the extreme.

The patient suffering from the shock of traumatism may not have that thirst which belong to the pyrexial state, so that drinks are not desired and solid foods not tolerated.

Under these circumstances, as a rule, a cup of beef juice or of peptones, repeated as required, will not only be tolerated, but will restore the lost equilibrium more hastily than can be done in any other way. It is much better to adopt this method than to wait for nature to do the work, as she is slow and extravagant, and often needs help in these reactionary methods necessary to the resumption of the ordinary diet.

In the treatment of our fever patients, no matter what the lesion, with the dry fauces, thirst and high temperature, the use of water becomes imperative, and if we can combine it with some nutritive constituents, the patient will be the gainer. We should bear in mind that milk is a food, and will not take the place of water in quenching thirst, It is well to dilute it with effervescing mineral waters, with or without the addition of grape juice. The starving of patients to keep down the fever is a thing of the past and should be utterly condemned.

A most refreshing and withal nutritious draught may be made with grape juice and effervescing mineral water, with the addition, according to indications, of either toast water, white of egg, yolk of egg, the entire egg, or of any of the extracts of beef, or of peptones, depending upon what we wish to accomplish.

I always include the grape juice as a base, when I can, for three reasons, viz.: 1. It is refreshing. 2. It answers the purpose of sweetening so much better than sugar; and 3. It is the normal nourishment of the body and is generally tolerated.

In some cases, other fruit juices, such as apple, tamarind, pine apple, fresh currants, orange or lemon, all of them of little nutritive value, may be used to bridge over or be added to the grape juice to suit the palate. Malt extracts are used by many for the maltose or grape sugar, soluble dextrine and some soluble albuminoids

they contain, and their sweet taste may also be largely overcome by the addition of effervescing mineral water.

There is a difference of opinion in regard to the use of milk in enteric fever, not only on account of its deficiency of fuel food, but because the first step in its digestion is curdling, and a firm curd irritates. There are several ways in which the large curd may be avoided, and one of the best with unfermented milk is the addition of effervescing mineral water. Some use lime water, and others use baked flour. When the palate is not offended by an acid, kumyss may be used to great advantage, as here we find the curds small and that they will not become large in the process of digestion.

As I have said before, cane sugar is subject to acetous fermentation, and for that reason kumyss should be made with milk sugar as a ferment, as from this we obtain a lactic acid fermentation, which in many cases is greatly to be preferred.

The consensus of opinion is in favor of the free use of drinking water systematically in typhoid, either hot or cold, according to indications. As a rule, I prefer the carbonated, unless the patient objects. Many object to milk unless predigested, and all, I think, agree upon the use of kumyss, provided it is not disliked by the patient. Alcoholic stimulants are not indicated in all cases of typhoid, hence we should beware of prepared foods which contain whiskey. Glycerine with hydrogen dioxide is an excellent remedy, for many reasons which will be obvious to any one who stops to reason out the *modus operandi*.

In our cases of indigestion, acute or chronic, we have found papoid one of the best digestive ferments, and especially as it acts equally well in an acid or an alkaline medium. Papoid dissolves the abnormal mucous secretion, prevents fermentation, stimulates the gastric mucous membrane to normal secretion, beside being one of our most powerful solvents of all articles taken as food and certainly holds a large place in our armamentarium.

Milk sugar is claimed by some to admit of no direct alcoholic fermentation, but by a lengthy action of yeast, this may be accomplished.

When kumyss proves to be too heavy a food, and an acid is required, buttermilk which has been allowed to stand for a time in a warm place, and then cooled to the taste, will answer the purpose.

Buttermilk is as light a food as we can well provide, as it contains no fat, and but a small quantity of proteids, in the form of well-broken curds. The entire milk, or cream, or skimmed milk, should be selected according to circumstances, with or without effervescing mineral water.

In order that we may know just what is being given as food, the nurse's record should be carefully kept, so that it will always tell exactly what is being done; then, with a full knowledge of food values, and with the air to adapt food to suit conditions, we can have increased hope for recovery in all our cases.

We often find patients who assert that they cannot tolerate milk of any kind in any quantity, as a diet, and occasionally we have to admit that these claims are well founded. I think, however, that the majority can overcome this idiosyncrasy by judicious and methodical effort. Patients who dislike milk, or are disinclined to take it, should be carefully dealt with, and as a rule the prejudice (for many times that is all it amounts to), or the dislike, can be neutralized. The use of milk in these cases should be commenced gradually, and in small quantities, increasing slowly and methodically each day until the maximum is reached.

I have found the addition of grape-juice, glucose or maltine to milk, excellent aids with those who like sweets, in establishing the milk diet.

Milk will sometimes form solid curds in the stomach when used in its natural state, and may require the partial conversion of its casein to albuminoids, which will not coagulate.

This may be accomplished by a process of shaking in a closed vessel for a short time, by the addition of carbonated water, or by the use of peptonizing powders, which are furnished by the well-known house of Fairchild Bros. & Foster.

The process is well known to you all, but should the details have escaped the memory, directions will be found with the powders as furnished, and the degree of digestion may be limited by heat and cold to suit the particular case. Albumoses thus produced, non-coagulable by heat or by dilute acids, answer an excellent purpose in many

cases, but we should remember that when digestion it carried too far, a peptone is produced, with its bitter taste.

The subject of feeding with sterilized milk has not fulfilled in practice expectations of its sanguine advocates. Sterilized milk is said to be less easily digested than untreated milk, and that continued use is liable to be followed by scurvy, and that it is not prophylactic of septic diarrhœa. The reasons are stated to be that the milk is acid, and contains various products of decomposition which are poisonous and irritating to the intestinal mucous membrane.

It is positively stated upon good authority that boiled milk curdles within the stomach in the same way as if it were unboiled.

Sterilized miik deteriorates with time, and should not be used if more than a week old, kept in a cool place.

The albumen of egg forms an excellent food in various combinations in many acute affections. I have been in the habit of using it mixed with some mucilaginous medium, in cases of acute enteritis, with excellent results. Patients are able to take the whites of anywhere up to a dozen and a half, in twenty-four hours. All sorts of combinations may be made with it, depending upon conditions and circumstances. I often use it with grape juice and some effervescing water, to the great satisfaction of patients. It may be added to the cold beef extracts to great advantage, and in this way we obtain a most nutritious, as well as stimulating food, which is agareeable to many palates

Hauser (*Berl. Klin. Woch.*, Aug., 14. 1893.) proposes for infants a food consisting of cow's milk corrected by addition of cream, milk sugar and egg albumen, heated above 130°, with the result of checking vomiting and diarrhœa, and we should certainly keep the suggestion of adding egg albumen in mind, as our resources are sometimes taxed to the utmost to find a food which will agree with some infants.

I have pushed the egg to the extent of being able to detect it in the urine, a result which sometimes obtains. The egg albumen is much easier digested when mixed with some carbonated water. We should study differentially the use of the entire egg, the white and the yolk individually, and a wider range of application of this valuable food stuff will commend itself to us.

Nitrogenous food in some form or combination, is absolutely necessary to the continuance of animal life, beyond a short limit. The proteids, defined by Kirkes to consist of albumen, casein, gluten, and their allies, and gelatin, and which contain carbon, hydrogen, oxygen ,and nitrogen, and some of them sulphur and phosphorus, form, according to Foster, the principal solids of the muscular, nervous and glandular tissues, of the serum of blood, of serous fluids, and of lymph, and are frequently spoken of as albuminoids.

Proteids are readily converted at the temperature of the body into peptones by the action of the gastric juice in an acid, or of pancreatic juice in an alkaline medium.

Physiologically speaking, the whole animal body is modified protoplasm, the proteids forming the chief mass, fats and carbohydrates however, never being wholly absent. It is a self-evident fact, therefore, that our efforts in restoring health must be directed in accordance with sound physiological principles, and the pabulum necessary to restore a lost equilibrium must combine the elements necessary to nutrition in a normal manner. This, however, cannot always be done in the sick, by the exhibition of foods in what is known as a mixed diet. We are compelled sometimes to limit our food supply to any one of the class of elements which go to make up an ideal diet. We have heard much of late of albumose or albumen peptone, as a most desirable article of nutrition in certain conditions. Albumose is a term applied to partially digested albumen, just before the full change to peptone occurs, and it is considered a veritable tissue builder. Albumoses are odorless, tasteless, and are consequently devoid of some of the odjectionable features of the peptones. The most perfect preparation of the albumoses yet produced is furnished us from Germany, under the name somatose.

Somatose is a yellowish, fine, granular powder, readily soluble, perfectly odorless and practically tasteless, containing the nutritive qualities of meat, minus the glutinous material, fat, creatin, xanthin, etc. The usual dose of somatose is a teaspoonful or a dessert spoonful dissolved in a cup of milk, soup, grape juice, with or

without the addition of effervescing water. It has been found that this agent diminishes nitrogenous waste, replaces the albumen of the organism, and one part is equal to six parts of beef devoid of fat.

It is claimed to be indicated in all acute diseases where a food rich in albumen and readily assimilated is required, and I have found it of especial service in cases where the peptones were declined on account of their odor and taste.

We may imitate, artificially, the action of the stomach in converting meat albuminoids into soluble substances, for use in such patients as are unable to complete the act themselves, and thus add to our armamentarium for their treatment. I have used the beef peptones made by Rudisch for years, in enormous quantities, and I am confident I have saved many a life with them.

There are cases where the increase of urea is to be avoided, in which we should be cautious in the administration of beef peptones, the same as we would in allowing the meat to be taken in the undigested state. We should have positive indications for and against the use of meat, as we would any other agent. The healthy human stomach has no trouble in digesting beef that has been properly masticated, and when meat is indicated in the acutely ill, there can be no objection to a peptone made from the entire meat by means of artificial heat carried to a high temperature, which so entirely changes the fibrin as to make it correspond in general composition with other proteids, and, according to Schonbein, it becomes a bearer of ozone.

Beef peptones of this class contain some sixty per cent of nutritive value, and I cannot speak too highly of their employment in a great variety of acute affections when this form of nitrogenous food may be called for. I will not take the space to enumerate the great variety of affections in which they are useful, because it is well known clinically to most of us that beef peptones fill a large place in the nourishment of our patients suffering acute affections.

A characteristic feature of peptones is their extreme diffusibility, a property which they alone, of all the proteids possess, since all other forms of proteids pass through membranes with the greatest difficulty, if at all. (Foster.) In order that the peptone may not escape by the kidneys as easily as it gets into the portal vein, it is dehydrated and once more becomes a proteid.

The further study of the elaboration of the albuminoids, while of the greatest practical interest, would carry us too far for the limits of the present paper, notwithstanding the fact that many points have an important bearing upon the dietary and other treatment of acute cases.

It must suffice for us to say in this connection that the liver and kidneys require plenty of water, to successfully carry off the excess of soluble urea which is the result of taking albuminoids in excess of body wants.

The relative value of the various preparations should be kept constantly in mind when such articles are being considered as foods. While ordinary home-made beef tea, and all the extracts are next to nothing as nutrients, they certainly have a place as stimulants, and as flavorings for other more nourishing foods, not so pleasant to the palate.

There are in the market preparations of blood and whiskey, under various trade marks, which have a large sale, I presume, and which are highly praised by some, who, I am afraid, do not always take into account their composition, and while these have a place in our armamentarium, we should not lose sight of the fact that they contain an alcholic stimulant and are very offensive to the special senses of smell and taste, and their food value is not very great.

The juice of meat which has been heated sufficiently to swell and dissolve the envelope of the muscular tissue, can be easily expressed by an ordinary lemon squeezer, is agreeable to the taste, possesses a food value of about seven per cent., and answers an excellent purpose to help bridge over, or it may be used as a vehicle for peptones, (when these are offensive to the taste) or for uncooked eggs, when it is desired to increase the quantity of food, and beef juice is agreeable to the palate.

John Wyeth & Brothers made a delicious beef juice, agreeable to the most fastidious, which can be found at any druggist's, and for this reason is most readily obtained, having a food value of three per cent., which is a great convenience.

When heated in the test-tube Wyeth's

beef-juice becomes solid, thus showing the percentage of soluble coagulable albumen. It also contains the hæmoglobin of the meat unaltered.

Of course these meat juices should not be heated above 110° F., if we care to retain the "juice" properties, although when coagulated it will make an excellent beef tea. This beef juice answers the purpose of a vehicle for any of the more nutritious food stuffs, and it may be diluted with any of the carbonated waters. As a stimulant, Wyeth's has no superior, embodying in a concentrated form all the albuminoids of beef. It is perfectly stable in every climate, contains no alcohol or other preservative, excepting common salt.

I am in the habit of prescribing this stimulant in preference to alcohol under many circumstances, thus saving the depressing reaction.

It will be found of service in acute gastritis, when no other agent will be tolerated by the stomach. It can readily be demonstrated by heating a one-third solution in a test tube that albuminoids are present as stated.

Combined with grape juice we can easily administer enemata in typhoid and other grave conditions, when loathing for good food would make the case almost hopeless otherwise, and thus supporting our patients over a trying moment, we hope for much more than could be reasonably expected under other circumstances, and death by exhaustion from neglected nutrition will be avoided.

A simple and inexpensive extract of beef which can be made at home has been recently suggested by Dr. Jacob Price, of Westchester, Pa.

℞ Hydrochloric acid officinal.....f℥ i
Essence of pepsin (Fairchild's).....f℥ ii

Of this mixture three teaspoonfuls are to be added to one pound of finely minced lean beef, and placed in a quart jar in a cool place which is to be nearly filled with *cold* water, tightly covered and well shaken every half hour for two hours, when it will be ready for use. It may be salted and flavored at pleasure. When the question of expense is to be considered, this will be found to answer the purpose excellently.

The details must be carefully carried out in preparation.

The last candidate for our service in the way of a predigested food, from our friends, the Fairchild Brothers, has been named "Panopepton" and consists of bread and beef, with sherry wine as a preservative. We are assured by this reliable house that only prime beef and the best wheat flour are used, and that both are thoroughly cooked, properly digested, concentrated in vacuo, and contain all the elements requisite for the nutrition of the body.

Where a stimulating and nutritious reconstructive is required at the same time, Panopepton will be found much more useful and agreeable than the blood and whiskey abominations.

When one has been chilled, there is no agent which so promptly and effectually warms up the body as a cup of hot sarcopeptone, and it is far better than any alcoholic stimulant.

Pneumonia patients will do much better, when they are able to tolerate hot sarcopeptone every two hours from the beginning. The course will be more rapid, the crisis will be passed with safety, and rapid convalescence result.

We may emphasize this mode of treatment in our diphtheria patients.

The entire absence of proteids is a marked feature of bile, and the bile has no digestive action upon proteids whatever. Foster says that "we may fairly assume that the secretion of even such a complex fluid as the bile, is in the main, the result of the direct metabolic activity of the protoplasm of the hepatic cells."

It is enough for our present consideration that tissue waste and albuminoid excess are burnt up (mainly in the liver), and oxidized in a descending series of retrograde albuminoid metamorphosis.

There is certainly an art in preparing and serving articles of food, and it may be made of great utility, especially with the acutely ill. Not that it should be used to seduce the patient to take food which will not be tolerated by the stomach, but rather that the sight of it, because of its dainty neatness and surroundings, will stimulate the special senses in such a way to excite the appetite to as nearly the normal point as possible. To many, the æsthetic element, which adds attractiveness, will increase the digestibility of the article ingested. Upon the cook and the nurse the physician is dependent for much

that will help in the convalescence of the patient.

Acute disease is always accompanied by fever, consequently the physician should carefully weigh the effects of the different classes of foods in kind, in quality and in quantity, in order to successfully overcome the loss of body weight, and to offset the increase of urea and the excessive excretion of carbonic acid and water, in order to avoid the danger limit. I cannot urge too highly the use of carbonated waters in these cases; and they are to be used freely, all that can be borne, as they will be most agreeable to the patient in quenching thirst, they are refreshing, reduce abnormal temperature, and digestion and assimilation is better performed in their presence.

It is worse than useless to give a patient food he cannot digest in any form or quantity, and we cannot be too careful in this regard during convalesence.

It is just as important to watch the excreta as it is to know what goes into the stomach as food.

There is no point in typhoid fever which is of more importance than the quality and preparation of the food, carelessness or over zeal in this regard resulting in fatal results.

Diphtheria is one of the acute affections in which the pushing of nourishment to the utmost demands the constant attention of the physician himself, for it is not safe to trust so important a matter to any attendant, and the patient who cannot be induced to take sufficient food is going to die!

The buccal cavity can be kept clean and in condition to tolerate food, with a solution of Sanitas fluid; and this is important, because patients will refuse food oftentimes because of the sensitive or foul condition of the mouth.

The palate and individual idiosyncrasy are important factors in feeding the sick, and in choosing variety the palate as well as the question of nourishment should engage our attention.

It has been well said by another that "when life seems passing away under their eyes, the friends will often shrink from tormenting, as it seems to them, the sick man with food. Let them not despair; many a one has recovered after the doctor has taken his leave with a sad shake of the head, and without making a fresh appointment. And let them also be stimulated by the fact—namely, that the pains of death are aggravated, if not mainly caused, by the failure of the nutrition. Even when apparently insensible, the dying suffer much increased distress from want of food, though they cannot express their suffering."—*N. Y. Med. Times.*

# SOCIETY REPORTS.

## CINCINNATI OBSTETRICAL SOCIETY.

[OFFICIAL REPORT.]

*June 28, 1894.*

### CLINICAL REPORT OF FOUR CASES OF APPENDICITIS; OPERATION AND RECOVERY.

DR. RUFUS B. HALL: I present this short report to-night as illustrating the different conditions for which we are called upon to make operations for the relief of this disease.

CASE I.—R. D. H., a physician, living in North Liberty, O., consulted me February 9, 1892. At that time he was unable to walk from the effects of his illness, having been confined to his bed for several weeks. His weight, which was usually 200 pounds, had fallen to 140 pounds. He was just recovering from his fifth attack of appendicitis within eight months, each confining him to his bed for from a few days to two or three weeks. He had the usual symptoms of appendicitis; a well-marked induration in the region of the appendix, with tenderness and pain upon pressure, which had never entirely disap-

peared after the first attack, in June, 1891. He had been able to practice medicine between the attacks, but always with some discomfort in that region. During these attacks he suffered greatly from irritability of the stomach and nausea. This was so marked he was unable to take any except liquid food, and that in small quantities. For three weeks his stomach was unable to retain more than an ounce of the blandest nourishment at a time. His food was practically limited to milk and lime water. During his last attack he suffered greatly, requiring morphine for the relief of the pain. He was brought to the city and entered my private hospital at that time, being unable to straighten his right leg on account of the pain it caused in his abdomen. His temperature was normal, his pulse 112.

After a thorough examination, operation was advised and made February 12. Upon opening the abdomen the adhesions were found to be extensive and very firm, and it was with considerable difficulty the appendix was found. There was no pus present, but the appendix contained five foreign bodies, about the size and appearance of grape seeds. After careful examination these were determined to be concretions. He made a prompt and complete recovery, returning home March 18. Within three months he weighed 200 pounds. He has no return of his former trouble, and is now actively engaged in the practice of medicine in a country district.

Case II.—Miss E. S., Columbus, O. Occupation, stenographer; aged twenty-six. She had always enjoyed good health previous to the present illness, which came on in the night of December 24, 1893. On the morning of that day she left Columbus to travel to Cleveland and spend the Christmas holidays with a sister in that place. She attributed her attack to the ride on the cars, but as to the truth of that I have serious doubt. Within a few hours after the pain commenced it became so severe that a physician was called; he at once diagnosed appendicitis. She was very ill for three days, but on the fourth day the symptoms abated, and he advised her removal home. This was done, and for three or four days she improved, but on January 1 her temperature again rose to 103° and on the next day to 104°. On the night of January 4 I saw the patient at her home. Her pulse was 130, temperature varying from 102° to 104°, and a well-marked induration in the right iliac fossa, with occasional vomiting.

Immediate operation was advised, assented to, and made the following morning.

Upon opening the abdomen, extensive adhesions were found adhering to the anterior abdominal wall. These were carefully separated towards the brim of the pelvis until we opened into a cavity containing several ounces of chocolate-colored bad-smelling pus. As is my custom in cases where suppuration is great, no extensive search was made for the appendix. The parts were carefully cleansed and drained. Upon the fourth or fifth day the pus contained a slight quantity of feces, and this objectional material was present for the following ten days. At the end of four weeks there was no indication of intestinal leakage, but it was five weeks later before the wound was entirely healed. She made a complete recovery, and is now back in the office in perfect health.

Case III.—E. M., aged twenty-six, farm hand, Mason, O. I saw him in consultation, April 12, 1894, when the following history was elicited. The patient was taken suddenly ill about ten days before my visit with pain in the right side of the abdomen, which soon diffused itself over the entire abdomen. He had a temperature ranging from 101° to 104° from the first. The first few days of his illness the physicians gave him physic and thoroughly emptied the intestinal tract; after that time he was given milk and broths, but no physic. He had occasional doses of morphine, but gradually grew worse. Upon examination I found that the colon was largely distended with feces, which consisted of scybala following the use of milk diet, and the intestines were greatly distended with gas. In the right side of the abdomen the tenderness was well marked. He had been given chills and sweats for two or three days, with every indication of suppuration. An operation was advised as soon as the bowels could be emptied of their contents, which in this condition is not easily to accomplish. After repeated doses of salines and many enemas the bowels were thoroughly emptied, and in response to a telegram I went to Mason on

the morning of April 14 and made the operation.

In separating the firm adhesions to the anterior abdominal wall, we opened up the abscess cavity, holding several ounces of dark-brown, offensive pus, having a distinctly feculent odor. This was thoroughly cleansed and drained. At the upper end of the incision we had opened freely into the peritoneal cavity. This was closed off with gauze packing and the wound dressed, practically as an open wound. The patient had a fecal fistula for about three weeks; at the end of six weeks the wound was perfectly closed. He is now doing his usual work as a farm hand, and enjoys good health.

Case IV.—W. W. P., aged forty-one, physician, Fredericktown, Ohio. He had his first attack of appendicitis about six years ago, at which time he was confined to the bed for a few days, the soreness remaining a week or two. After this time he had no tenderness or pain in this region until September, 1893, when he had another well-marked attack of appendicitis, confining him to bed for several days, the soreness and induration not disappearing for about three weeks. After this he resumed work until December, when he had a third attack of about the same duration. In January, 1894, he had a fourth attack about like the others, but in March he had a very severe one, confining him to bed for a week or more, the pain and induration not disappearing for about six weeks. On May 10 he had the sixth and last attack. He was unable to work after that time. He consulted me on June 5, at which time he had a well-marked induration the size of a small orange in the region of the appendix, which was exceedingly sensitive to pressure. He was able to walk, but not with any degree of comfort, and had come to the city to have the operation made. The temperature was above normal after the last attack. For three months he had practically lived on liquid food. His weight had decreased from 160 to 140 pounds.

The operation was made at my private hospital, June 7. Upon opening the abdomen and separating the adhesions, which were firm, we opened into a pus cavity holding about half an ounce of pus. The appendix was crescent-shaped, and in the hollow of this crescent, between the coils of the intestines, was the pus cavity. The appendix was about the size of the little finger, except for about one-third of an inch just where it joins the colon. This was about a quarter of an inch thick, and appeared cartilaginous. It was ligated close to the colon and removed. The distended portion of the appendix contained a small quantity of pus—perhaps a half-drachm. There were no perforations of the appendix that could be determined. This patient has made an easy and prompt recovery, without an unfavorable symptom.

This patient had consulted many physicians and received as many opinions, which, I am sorry to say, differed very widely. Even at the last of his illness, the men who do not practice surgery advised delay, but the men who do practice surgery advised operation. This should not be. I think it is time for the profession to get together in their opinion in cases of appendicitis requiring operation. There need be no doubt about the advisability of operation in recurrent attacks of appendicitis, especially where they recur with frequency and severity, as they did in the first and last case. Again, there need be no doubt, even if it is the first attack, as in the second and third cases, where the temperature and other symptoms plainly indicate the presence of pus.

### DISCUSSION.

Dr. Charles Bonifield: I had a case of appendicitis last winter that I had intended to report systematically at some time, but the last remark of Dr. Hall causes me to report it now. The patient was a boy ten years old, whom I was called to see Christmas morning. He went from bad to worse, and in twelve hours had a general peritonitis; pulse about 130, and could not retain nourishment or food of any sort. Dr. Forchheimer was called in consultation. We discussed the advisability of operation, but neither of us were very much in favor of it; I, in particular, was not. At any rate, it was postponed until the next day, when we got his bowels to move. He then began to retain nourishment, and in about four days he was convalescent, and in a week I did not think it necessary to see him for a few days. When I came back I found a temperature of 101°, and this continued about a week. I made an examination for pus, but I was unable to feel anything through the abdomen or the rectum, and with nothing

but the high temperature to indicate it I did not feel justified to make an operation. There was some pain over the liver, but not very marked. About twelve days later his temperature ran up suddenly to 104°; I was telephoned for, and just as I got to the house they told me he had a very severe spell of coughing. I went up to his room, and found he had been discharging pus through the lungs. His temperature then fell, and in a week it was normal. In the face of the acute general peritonitis I do not think operation would have been justifiable. After the temperature continued high I would not have explored the liver, and think probably the abscess was above the liver. The liver was not specially enlarged at any time. Opening the abdominal cavity would simply have made it worse.

DR. HALL: What was the diagnosis of the first attack?

DR. BONIFIELD: Appendicitis.

Q. Could you outline a tumor?

A. The colon seemed to be filled with feces; you could map out an area of dulness.

Q. Your diagnosis was correct, I presume; what was the action of the abscess?

A. Acute general peritonitis.

Q. Septic in character?

A. I do not think it could be called a metastatic abscess.

DR. C. D. PALMER: His marked improvement was after the discharge of a quantity of matter?

DR. BONIFIELD: Yes, sir.

DR. A. W. JOHNSTONE: This is very interesting, and the one point I am glad to hear brought out and special stress laid on is not to operate while the intestinal canal is stretched to its full extent. I do not think any man is justified in making a laparotomy under those circumstances. One case of appendicitis, which some of the gentlemen present saw with me, turned out to be just a common colic caused by the fellow eating apples. No appendix was found, but the man got perfectly strong and well. I believe sometimes the appendix may slough out through the bowel and a chronic peritonitis left, which may be cured by an exploratory incision. In this case no appendix could be found. The colon was laid open from the ileo-cecal valve to the head; there was a blotch of cicatrices everywhere, and we had to separate a number of them. After I had gotten back it seemed as if we were going into the normal parts, and I stopped. There seemed to be some accretion, but this I found to be only the contents of the bowel. I took the drainage-tube out about the second or third day, and the serum poured for about a week. He came back in a few weeks and I did not know him; he said he had earned the money in a brick-yard to pay for the operation.

My first operations in this line were upon negroes down South. They were close together, and are living to-day.

I have seen men who no doubt had one attack of appendicitis; everything was asked to make the diagnosis perfect, and they are well to-day; so I am not prepared to go to the same extent the New York Academy does. But the second attack always calls for operation. It is then time for us to go to work. If the first attack is mild, I think it is safe enough without operation. I had an experience with a little girl, aged thirteen, who had menstruated her second time and completed it one Wednesday. The following Sunday she had jumped the rope, and had some pain, but did not call the doctor until the following Wednesday. I saw her about 1 o'clock and ordered her to the hospital. I found she was in shock, the temperature below normal (about 98°), and I ordered a cathartic. The next morning the temperature had risen a little, and I saw the child was going to die unless something was done. I made the effort, simply going through the abdominal wall, and I found a lot of feces, enteroliths, etc., and she died that afternoon. In these cases the gas must be removed before the patient is safe, and the whole question simply resolves itself into whether it is easier to do this before than afterward. I do not think it is safe to cut into the abdomen in any case before this is done, except in cases of stab wound. In the first laparotomy of my old assistant, down at Danville, the case was caused by the blow of an ax handle. In that case the bowels continued distended, and it was perfectly apparent that unless something was done the child would die. I assisted him in opening the abdomen, and we found nothing but a dry peritonitis and an enormously distended canal. When the intestines were gotten out we could not return them without opening them, and so we made an eighth of an inch

opening in the intestinal canal and let out all the gas and feces we could possibly get out that way. He made a beautiful recovery, which I think was due to the drainage. The introduction to the drainage-tube started the serum to flowing, and it just poured for several days. In proportion to the pouring of serum was the improvement of the child. Of course the difficulties of the peritonitis we know. We often find these cases with adhesions.

I do not think the appendix is put there for nothing, but that it is after all only a hollow lymphatic gland; it is simply a continuous Peyer's patch, and the volume of the serum I think is increased. It is there, and I do not think we have a right to take it out every time we find it. In the last year I have had the appendix in my hand three times, and several times have had to ligate the adhesions and take them away. Now, when the appendix is perfectly normal, except from inflammatory bands which have come from the tubes and ovaries, I cannot understand why we should consider it necessary to remove it. I saw a normal appendix exhibited in the New York Academy, taken out just because the gentleman had his hand on it. I do not think we should hunt for the appendix in cases of abscess. In the case I had within the last week or ten days, a large abscess of the ovary had been discharging through the alimentary canal. It had continued a year or two. I got the ovary out, but could not get the tube out without wounding the intestines. I expected to curette the case afterward. I found the sinus had gone down to the broad ligament, and then out into the intestine. It has made an uninterrupted recovery. I think when we find the thing we are after to save the life of a patient we ought to quit, and that is a law we ought to follow more closely. My old professor used to say: "Boys, don't muss and muddle; don't go too far, because every time you touch an intestine or break an adhesion you add that much to the risk, and the thing to do is to do as easily and smoothly as possible the one thing you go after, and leave the rest alone."

Dr. W. H. Wenning: I have not had any personal experience, and come just to learn; but one remark of the last speaker brought a query to my mind—whether in some cases with accretion, instead of removing the appendix, would it not be possible by pressure to force the substance into the main gut, and leave the appendix alone? I have not my mind definitely made up as to the proper treatment of these cases. Certainly the medical aspect has something in its favor. I am sure many cases are cured by medical treatment and before we determine what is the proper line of treatment we ought to listen to the medical side. I would like to hear Dr. Cleveland's views on this question.

Dr. J. L. Cleveland: My opinion, based on my own limited observation, is that the majority of the cases of appendicitis get well. I think very likely every practitioner has a number of cases of appendicitis, and it is only now and then that we find it necessary to call in assistance to operate for us. In fact, in twenty-five years I have never had a case that was operated upon. In one case it would have been very fortunate had I called in a surgeon, but in that case I did not fully realize what I had to deal with until it was too late. I can recall some three or four cases that have entirely recovered without operation. The statement has been made by experienced men, and I do not doubt it, that when the appendicitis appears more than once it is probably well to operate. While I am not in a position to contradict that, still I am of the opinion that frequently even these cases get well without operation. One case especially, which I have in mind, a man probably thirty-five years of age, has had some three or four distinct attacks of appendicitis. At one time I advised an operation, but after a series of weeks he recovered. He simply had an acute attack of pain, a localized peritonitis around the region of the appendix, and it lasted three or four weeks. It was not like the fever we have when pus is present, and if there was any pus I did not discover it. He is now perfectly well and is doing his work. I had another case, which occurred in a woman, showing that these cases may be cured sometimes by simple puncture. She had one or two attacks of appendicitis, and I wanted her to be operated upon—insisted upon it, in fact—because I thought otherwise she would die. After two or three weeks, the peritonitis not becoming general, I could feel a fluctuating tumor, and I was so well

satisfied that I had felt justfied in sticking a knife into it without saying anything to her about it. Afterward I increased the opening and washed it out. I mention this case to illustrate an experience which I expect others have had, namely, that the appendicitis has softened in some cases so they have thought best to stick a knife into it. I have had another case when resulted the same way. Our judgment in these operations is to a large extent influenced by what we see. The general practitioner only sees the cases which come under his own observation, while the specialist sees not only his own but also the cases coming under the care of others. I feel satisfied, from want I read regarding the operations in the East, that they are certainly carrying things too far and operating too freely; notwithstanding these patients usually recover, I do not think it is an easy operation by any means. The point I would make is that the majority of cases of appendicitis get well under the medical treatment and only the serious or worst cases come under the observation of the laparotomists.

Dr. Johnstone: I remember, while practicing in Kentucky, I went down in the mountains, in that ignorant Egyptian land, and I found a patient who was not only pregnant but had a large lump in the groin. They would not let me touch it, and I returned home. The doctor wrote me in three or four months the result. She got well, but with the thigh drawn up. She would not let him touch it, and it dissected away up the side and down the thigh, and it discharged about two gallons of pus. At the time of her confinement the leg was drawn up in such a position that it was difficult to get the child out. This illustrates how nature will sometimes bring these patients through, but with what deformity! When cases have the second and third attacks of appendicitis, the percentage of recovery is very greatly reduced. But when we find it is safer to operate than to let the patient alone, I think a man is a simpleton not to go ahead and operate.

Dr. Hall (closing): Certainly no man would take off an appendix which was healthy, unless he resided in New York. I have frequently pulled them off from adherent pus-tubes or suppurating ovaries, and pushed them out of the road. I simply pulled them off as I would an adhesiou with any other organ—as a coil of the intestine for instance—and let it be. I removed one appendix, however, that was fairly healthy, except it was adherent to a large fibroid tumor. I have reported this before. I did not recognize it as the appendix, but mistook it for a vessel. I put it in a clamp, because the blood from it squirted over my head. The patient recovered. That is the only time I have ever been guilty of removing a healthy appendix. I think the suggestion by one of the speakers, of pushing the accretions back into the gut, is a very problematic one. In fact, in all these cases that we are called upon to operate there is an inflammation rapidly going on, and the narrowest calibre is to be found where the appendix joins the gut. In the first case reported the physician had several foreign bodies in the appendix. There was a sort of cartilaginous portion near the intestine, through which there could be found no hole whatever, and I think it would have been perfectly safe to have cut it off without any ligature. I will grant, if such a thing could be done, it would be perfectly safe to do so, but I think we would very rarely find a suitable case. I have never considered the question to any great extent, but it has never occurred to me that that would be a good way to treat these cases.

In reference to the medical treatment, I think we all agree with Dr. Cleveland, but I think we should get together, and medical men should refer the cases for operation before they reach the autopsy-table. After they have had a second or third attack, especially if those attacks occur at short intervals and are severe, there should be no question about operation. I believe they should all be operated upon. I have the record of a case, however, which has recovered now five or six years after the ninth attack in two or three years. The patient learned to lead an invalid life, because exercise would bring on the disease, and nature cured the case without operation. I have the complete records of one case that had seven or eight exceedingly mild attacks and then had an exceedingly severe attack and went to the graveyard. When I saw her it was impossible to count the pulse, and she died in an hour or two afterward. I have not reported these cases for a purpose of drawing a line between those cases which should be operated upon, for I consider that each

case is a law unto itself, and the party having the patient in charge must be the judge.

DR. CLEVELAND: How young a child can have appendicitis?

DR. HALL: I have operated upon one nineteen months old.

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### ELECTRICITY FOR STERILITY.

DR. C. D. PALMER: It will be remembered that several months since I made mention of a case of sterility, which I considered cured by means of the galvanic current. It was a form of sterility which is perhaps one of the most, if not the most, common form. It is a congenital condition, arising in the second period of development of the uterus, in which the cervix becomes elongated, the os externum very small—pin-holed, and the whole uterus is more or less imperfectly developed—the infantile uterus.

The galvanic current was used as follows: The positive pole externally over the abdomen, and the negative pole placed intra-uterine, so that the cervical canal might be dilated, and the whole uterus enlarged. After repeated applications, and occasional intermissions of any treatment, the patient became pregnant. When I had reported the case to this society she was in the seventh month of utero-gestation. She underwent parturition a few weeks since. Toward the end of the normal term of gestation I visited her once a week, to see what progress was being made in the natural process of obliteration of the cervix, occuring usually within the last two weeks. Now, noticing that the os externum was still small and contracted, although she had approached to the time of parturition, according to the Naegeli rule, I commenced an artificial dilatation with my metallic forceps, using first the smaller and then the larger size. This procedure induced feeble pains, and in a few days genuine labor set in. But the first stage was the most prolonged and perplexing one I have ever witnessed, extending over a period of three days before a sufficient amount of dilatation had been accomplished to introduce my hand within the uterine cavity. By this time the patient was very much tired out, had a frequent pulse and slight elevation of temperature. The examination revealed a right sacro-anterior position of a breech presentation, a complete extension of the fetal legs on the flexed thighs, and a contracted pelvis of the mother in its antero-posterior diameter of the brim. This pelvic contraction did, and could have no influence in delaying the progress of the first stage of labor. The same was due only to the imperfectly acting uterus. Needing assistance, I sent for Dr. Edward Mitchell, and after a hot-water antiseptic vaginal injection, and the administration of chloroform to complete anesthesia, I commenced podalic version. The high position of the fetal feet within the uterus, and the somewhat tetanic condition of the uterine walls, delayed me in bringing down both feet and the delivery of the whole body of the fetus, save the head. Anticipating that I might have to contend with a retained head because of the maternal pelvic contraction, after a reasonable traction on the fetal neck, favoring utmost head flexion, I applied my obstetric forceps, and made a prolonged vigorous traction. Then I requested Dr. Mitchell to continue this forcep traction, while with the two fingers of the right hand I pushed back on the occiput, and with the same fingers of the left hand hooked in its mouth I pulled down the lower jaw. These combined efforts of both were successful in effecting delivery of an asphyxiated child. Dr. Mitchell then devoted his entire attention to the resuscitation of the child, and he was successful after prolonged efforts. Of course, the delay in the delivery of the child's head and pressure on the umbilical cord explained this asphyxia.

Prior to the commencement of labor pains, and before artificial dilatation of the cervical canal, I measured the exterior of the pelvis in three of its diameters, to detect, if possible, any malformation. External pelvimetry revealed none. This procedure only proves how unreliable external pelvimetry is in confirming a pelvic contraction. Many pelvic deformities, if slight, especially the juxto-minor can be detected only in parturition itself.

After the delivery of the placenta, as is my invariable custom, I proceeded to irrigate the vagina with hot water, antiseptepticized with bichloride (1:4000), and then observed an unusual post-partum flow, although the uterus itself was in normal position and size. The blood

seemed to proceed from the vagina, and it could be seen coming from a rupture of the veins of the "bulb of the vestibule." The latter was checked by a ligature passed beneath the bleeding vessels, and suspecting a rent of the cervix as the cause of the former, I exposed the cervix with a large Sims' speculum, and passed three silk sutures to close this rent. The patient made a smooth and uninterrupted recovery, notwithstanding she was nearly pulseless after the sutures were placed.

Among other questions which may arise in discussing this case, I wish to state that it has been my habit to stitch a lacerated cervix immediately after parturition, if the tear is noticed as much as to within the vaginal vault, and always, if the torn cervix walls are the source of the post-partum hemorrhage. There is but little doubt that some of the few cases of post-partum hemorrhage, occurring at the present time, and ending fatally, might be reversed by inspecting and suturing primarily the rent structures.

Some may think that the method of effecting dilatation of the imperfectly dilated cervix, by incisions, as recently recommended, might have been practiced in this case. While the cervix was imperfectly dilated for a full passage of the fetal head, still it was dilatable. The delay in the fetal head delivery was from the contracted pelvis of the mother. It has always seemed to me that this obstetric surgical procedure of incisions of the cervix is adapted for cases only in which the imperfect dilatation is owing to morbid organic changes within the structure of the cervical lips, and not to cases of imperfect dilatation from functional causes. While dilatation was about three-fourths complete when podalic version was performed, the cervix was soft and dilatable. This, then, is not a condition calling for cervical incisions.

DISCUSSION.

DR. E. W. MITCHELL: I had the pleasure of seeing this case with Dr. Palmer, as he has stated, and I can certainly congratulate the doctor on the result, both to the mother and to the child. I expected the child would be asphyxiated beyond recovery, and I certainly think the doctor has every reason to be congratulated upon the skill he showed in the management of the case, which was unusally perplexing from the beginning to the end.

These cases of infantile cervix are always troublesome. They are slow in dilating, and they are far more liable to occur in women who are delicate and have not very great muscular strength; the woman becomes exhausted and worn out, and they are almost certain to be lacerated, no matter in what way the delivery occurs. The question might arise whether the use of electricity in this case might not have altered the normal tissues so as to predispose to the rigidity and the liability to laceration. From the fact that a cervix like this will almost always be lacerated any way, I think it is doubtful whether the electricity has any such effect. When I saw the case there was in my mind no question whatever but we had come to the right conclusion, that the time had arrived when the woman should be delivered. The cervix was sufficiently dilated and sufficiently dilatable for the dilatation to be completed by podalic version.

As to whether the cervix should be immediately repaired: After we had repaired the perineum and placed a suture in the bulbo vestibule, the hemorrhage at first seemed to have ceased, but when we found it was coming from the lacerated cervix. I have never made a practice of the immediate repair of the cervix. It is an operation that is not so difficult to do at this time, and yet then your patient is exhausted and the friends are anxious that she shall rest, it takes a certain amount of tact to get the consent of the patient and friends to proceed with the repair of the cervix as well as some courage on the part of the operator to go ahead with it. I think the best practice, probably, would be to repair it immediately, and I am not sure but I shall come to that practice.

In this case the doctor tells me the repair of the cervix was very good after the stitching. The case illustrates the value of the speculum in cases of deformity.

DR. C. E. CALDWELL: The case which I wish to report was seen by Dr. Porter with me nearly two years ago.

I was called to deliver a dwarf, forty-one years of age, and a primapara. I found the pelvis small, but there seemed to be no irregular contracture. I did not use a pelvimeter, but I made up my mind that a fair-sized fetal head could be deliv-

ered. I was called to see her in the night. I came to the conclusion that the head would not be discharged spontaneously, and I called Dr. Porter, who administered chloroform while I proceeded to apply the forceps. When I tried to apply them it seemed they were almost wedged between the head and the pelvic bones. They were finally adjusted, and the head with great difficulty delivered, after which the child was quickly delivered. There was a laceration of the perineum laterally, which also ran up quite a distance. The cervix was torn, and there seemed to be nothing to do but to repair everything. I think about fifteen stitches were introduced. The patient recovered uninterruptedly, and in three weeks was doing her own work. She has since been in perfect health.

I am persuaded, where there is a laceration and a large surface for absorption, the only thing to do is to primarily unite the cervical wound. Of course this is to be done only when the patient is able to stand it, but even when considerably exhausted the few extra minutes spent in a repair of the cervix is to the advantage of the woman rather than to her disadvantage. It seems to me there will then be no necessity for a second trachelorrhaphy.

Dr. Wenning: Whatever I have to say will not be said in criticism of Dr. Palmer's case. It is always easier to tell afterward what could best be done. It seems to me, considering the length of the first stage, that this was a typical case for deep incisions of the cervix, and it is in just such cases that they are recommended. Possibly, if that had been done earlier, the labor would have terminated sooner with less difficulty. This, of course, is an intentional traumatism, and we cannot tell how far the laceration would have extended beyond the cut surface. Nevertheless, if we can carry the incision just to the proper degree, so we can introduce the hand or instrument, I think it would likely obviate the necessity of a laceration, which would otherwise inevitably occur. Therefore, why not make an incision sufficient to introduce the hand and deliver? This, of course, brings us to the question of suturing. In every case the cervix should be sutured, just as any other wound. I think in the great majority of cases it is not necessary. The primipara always have a laceration of the cervix, just as well as of the fourchutte, but if it does not extend very far up the hemorrhage will not amount to much. If there is a spurting of a ruptured vessel it should be sutured. The deep incisions are necessary sometimes for a double purpose: First, to prevent further hemorrhage; second, to insure against infection.

Dr. Bodifield: It seems to me there is one other question that might be brought up, and that is whether it is worth our while to try to cure sterility in cases of infantile cervix.

I have never been in the habit of suturing the cervix unless there is considerable hemorrhage. I think frequently there will be good union, and not enough scar to amount to anything. I have always had some hesitation about making what seems to the bystander such a formidable operation. Of course, if the hemorrhage is sufficient to be alarming, it should be stopped as well as if it were from any other part.

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## Treatment of Cerebro-Spinal Meningitis by Hot Baths.

Dr. Aufrecht (*La Semaine Médicale*, No. 48, 1894) in a case of seemingly desperate cerebro-spinal meningitis obtained remarkable results with very warm baths. The case in question was that of a workman of twenty-six years, at the third week of the disease. For ten days he had been comatose with subnormal temperature (36° C.), and a rapid and small pulse. Subcutaneous injections of camphor and the internal use of the iodide of potash led to no results, while his condition continued to grow worse steadily. On account of the cold and collapsed condition of the patient Aufrecht tried very warm baths. After the first ten baths at a temperature of 40° C., and of ten minutes duration, he remarked a notable amelioration. The patient came to himself little by little, the stiffness of the nuchal muscles and the strabismus decreased more and more, and after twelve baths, all the morbid symptoms disappeared completely and definitively.—Translated for The Medical and Surgical Reporter by the Translator, F. H. Pritchard, A. M., M. D.

# CURRENT LITERATURE REVIEWED.

IN CHARGE OF ELLISTON J. MORRIS, M. D., AND SAMUEL M. WILSON, M. D.

NEW ORLEANS MEDICAL AND SURGICAL JOURNAL

for July. Dr. A. J. Bloch gives some of his experience with cases of

**Sexual Perversion in Females.**

He divides his subject under three heads of the Krafft-Ebing classification. "Paradoxia-sexual excitement occurring independently of the period of physiological processes in the sexual organs." "Hyperæsthesia—Increased desire." "Paræsthesia—Perversion of the sexual instinct—excitement from inadequate stimuli."

Cases are described under these heads:—a girl of 14 complaining of nervousness and pallor, and failing to improve under tonics and exercise, was examined carefully and the clitoris being found bound down by its prepuce was liberated, and the girl stopping masturbation, which she had practiced, improved in health.

The second case was a girl of 2½ years, whose mother is a victim of the habit, and with other neurotic antecedents. In this case liberation of adhesions was insufficient, and the clitoris was removed as completely as possible, almost at the pubic attachments.

Another case, classified as hyperæsthesia resulting from paradoxia, was a young girl complaining of retention of urine. The complaint was without foundation, but each catherization cau ed an orgasm.

Another case was a married woman, a masturbator, who found no enjoyment in natural intercourse, The removal of cystic ovaries led to a great improvement in general health and ended in a cure.

Still another case was a woman complaining of a swelling in the mammary gland. The gentlest manipulation led to an orgasm, and the swelling proved to be purposely produced.

Dr. E. D. Martin reports a case of

**Simple Hypertrophy of the Mammary Glands.**

The patient was an anæmic, though well-grown colored girl of 14 years. The breasts were about thirty-seven inches in circumference, and weighed about ten pounds each, and though causing lancinating pains were complained of mainly on account of their size and weight. Large doses of iodide were ineffectually given for a while, after which the glands were excised separately and the patient improved greatly in general health. The glands were edeno fibromata. The case is reported to show the uselessness of iodide in humors of this size, and the author thinks it ineffectual, even in small humors, if they are not syphlitic.

Other papers in this issue are on "Diagnosis of Hepatic Colic," by Dr. E. M. Deparquier; "Two Cases of Suppurative Endometritis," by Dr. P. Michinard; also reports of the proceedings of the Clinical Society of Maryland, Morehouse Medical Society, Louisiana State Medical Society, and Orleans Parish Medical Society.

# PERISCOPE.

IN CHARGE OF WM. E. PARKE, A.M., M. D.

## MEDICINE.

### Chlorine Water in Diphtheria.

Dr. Schubert reports on the value of chlorine water in diphtheria. After an experience of many years he is most enthusiastic on the subject, claiming that no known treatment equals that of internal administration of chlorine water.

He gives a teaspoonful of a mixture consisting of two parts of chlorine water, and one part of distilled water, repeating every two or three hours according to the gravity of the attack. On account of the pungent odor the nose may be held for smaller children. Gargling or painting the throat is superfluous, but no water should be given after the draught. As a prophylactic the foregoing mixture may be given two or three times daily.—*Dental Med. Wochen.*

### Croup.

To summarixe briefly the medical treatment of croup teat will give the little victim the best chance of recovery is as follows: A warm room, the air of which is to be saturated with moisture; an emetic of turpeth minerol *to be repeated whenever the respiration becomes embarassed;* if the bowels are constipated, a sufficient amount of mild chloride of mercury to move them thoroughly; ice to the throat. either in a rrubber bag or bladder; if thirst exists, pellets of ice internally; quinine *to decided cinchonism, which is to be maintained;* a sufficient amount of hydrate of chloral to allay spasms of the air passeges, with decided doses of belladonna; the inhalation of steam, medicated or not as may suit the peculiar belief of the individual practitioner; the juice of the pineapple, trypsin with carbonate of soda in warm water; to be supplemented by the administration of a suitable amount of easily digested food.—*Medical Brief.*

## SURGERY.

### Morton's Disease.

Bosc (*Arch. Gen. de Med.*, July, 1894), begins a study of this metatarsal neuralgia. It is limited to the anterior part of the foot, and to the metatarso-phalangeal joint, usually of the fourth toe. The disease consists in attacks of pain, generally localized to this joint, but at times radiating to adjacent parts. The attack begins suddenly, and the pain may be excruciating, the patient often feeling compelled to take off his boots. Walking is prevented, and the leg is flexed. The pain usually ceases rapidly on repose, but returns as soon as the foot is put to the ground again. The attacks have a variable duration from a few hours to a whole day. They may only recur at long intervals, but occasionally every two or three days The attacks need not be so severe as described above, the pain being more dull. In the less marked attacks the pain may only produce a slight giving of the leg. There may be vague pain during the intervals, and much cutaneous hyperæsthesia. At times the disease may really be termed chronic. The attacks of pain may react on the patient's nervous system; he may become depressed, and is haunted by fears of further attacks. There is absence of any local sign of disease. In the case related here by the author there was, however, some redness over the plantar surface of the metatarso-phalangeal joint, and pressure here produced the pain. There was also marked hyperæsthesia.—*Ibid.*

### Railway Spine.

The great increase in railway travel has brought into prominence certain surgical injuries which assume great importance. These Dr. H. J. Saunders classifies, in the *Columbia Medical Journal*, into those in which some visible mischief is done, and those where no apparent harm has been sustained at the time of the accident. It is for the latter class of cases that railways are so often sued. The means of diagnosis are:

1. The absence of any apparent injurv to the spine adequate to cause disorganization or derangement of the cord.
2. The time of development of the disability.
3. The nature of the symptoms.
4. The history of the patient, both personal and family.
5. Certain diagnostic symptoms to be discovered by careful examination of the organs of the body, such as changes in the fundus of the eye, the reaction of degeneration, lessened or exaggerated tendon reflexes, etc.

Too much care cannot be exercised in giving the prognosis in these cases.

### A Disease-Proof Suit of Clothes.

A "disease-proof" suit of clothes, intended to be worn by an operating surgeon, has been patented at Washington. According to the description given to it, it is a complete suit of rubber armor, resembling the dress of an ordinary diver, and is constructed on air-tight principles, so that no disease germs can enter. There is a small pair of bellows beneath each foot, which, being compressed by the action of walking, blows fresh air in an ingenious manner through the armor. This air enters and is filtered through a germ-proof diaphragm under each of the feet, passing upward and out through another diaphragm arranged at the top of the head.—*Canadian Practitioner.*

## OBSTETRICS.

### Treatment of Early Abortion.

A conservative treatment of early abortion is recommended by Schauta, of Vienna, in a recent article. The old rule that pain and hemorrhage combined mean inevitable abortion he does not indorse, and thinks the accident preventable as long as the hemorrhage is not excessive or the cervix dilated He does not try to check the bleeding and trusts to rest, which is continued for eight days after the last bleeding. In those cases where the os dilates and abortion becomes inevitable he tampons with a strip of iodoform gauze, about two yards long and the width of three or four fingers breadth. He prefers to retract the perineum with the fingers of the other hand instead of using the speculum and renews the tampon at the end of twenty-four hours at the latest, removing it sooner if the appearance of sacral pains indicates that the ovum has been exposed from the womb. This method of treatment is in sharp contrast to the radical advice so often given of late to go in at once and curette out the womb as soon as an abortion becomes inevitable, a practice which Schauta objects to because of the danger of leaving fragments of membrane behind.— *Western Lancet.*

### The Diagnosis of Extra-Uterine Pregnancy.

The following symptoms suggest ectopic pregnancy:

1. The absence of menstruation, or a flow coming at irregular intervals and of uncertain duration.
2. Pain of severe and spasmodic character, which may be permanent at first, then absent for some weeks, to return later with renewed vigor.
3. Vaginal discoloration — a symptom of some importance, yet often noticed in cases where some other form of pelvic tumor is present.
4. General signs of pregnancy, such as nausea, enlarged and tender breasts, increase in size of the papillæ, darkened aureolæ, milk in the breasts, ballottement, the presence of a tumor, irregular menstruation, and possibly gait.
5. The history of having had a child or miscarriage. This is important, as cases occurring in nulliparous women are rare.
5. Expulsion of decidua. This symptom is of great importance, although in the majority of cases we are not fortunate enough to have it present, or if present the clot and shreds of

tissue are thrown away before a microscopic examination can be made.

7. Increase in size of the uterus, with the fundus either pushed forward or to the right or left side.

8. Elongated, soft, and patulous cervix.

9. The appendages on one side containing a thin-walled and tender cyst. The fact, however, that a tumor is felt upon both sides should have no bearing upon the diagnosis, as one of the tumors may be due to extra-uterine pregnancy, and the other to some other form of tubal, ovarian or pelvic trouble.

10. Pulsation of vessels in neighborhood of cyst.

11. The rapid increase in the size of the tumor.

12. Presence of fœtal heart sounds.

13. Presence of placental bruit.

14. Feeling the small parts of the child, either through the vagina or rectum, or by combined manipulation.

With diagnosis made the author holds that the right policy is to operate.—G. H. Haven, in *Bost. Med. and Surg. Jour.*

### Sore Nipples.

Dr. T. E. Teter, in *Omaha Clinic*, says: If the following sentence, "A sore nipple causes great pain when the child nurses," which occurs in a very valuable "System of Obstetrics," was reversed, it would approach my experience with this important disease. I have found great pain when the child nurses is generally followed by inflammation, excoriation, fissure and sometimes mastitis. The pain which is the first symptom of sore nipple is caused by sudden tension on the lactiferous ducts produced by the child each time it begins to nurse until the nipple is elongated sufficient to fill the child's mouth and to allow it to swallow without losing its hold. There is a constant jerking, with friction between the tongue and nipple. Acting on this theory, I have directed the mother or nurse to manipulate nipple and areolæ between the thumb and two fingers, using vaseline and drawing gently outward for about a minute. The child is then put to the breast and nurses gently, saving the mother that agonizing pain which is generally experienced in a case of short nipples. I have yet to hear of a case where the pain has not been relieved by this method, and I have seen deep fissures heal in a few days after this relief from pain. If mothers were treated for retracted nipples immediately after confinement, there would be few cases of sore nipples; and as long as the women of the present day will not recognize the evil effects of the corset, there will exist this condition of short nipples.—*New Eng. Med. Monthly.*

## THERAPEUTICS.

### The Food Value of Real Graham Bread.

Dr. Bardet (*Medical Week*) says: There is at present a marked tendency to return to the use of natural or Graham bread, made out of the whole grain. This tendency should be encouraged on dietetic and therapeutical grounds, because bread made in this way contains 40 instead of 20 per cent. of gluten, and contains twice as large a proportion of certain salts, particularly the assimilable phosphates, as that found in white bread, while it also contains the laxative fatty matter of the germ, which has been removed from the latter. These are indisputable advantages which it behooves us to utilize, at any rate in certain cases.

There is no doubt, for instance, that this bread furnishes vegetarians and the poorer classes with a much needed addition to their nitrogenous food Persons who are constipated, either by temperament or diet (milk diet, for example), will also derive great benefit from the use of Graham bread, owing to the laxative properties of the wheat oil. On the other hand, it would be a decided error to recommend its use to persons who are accustomed to an abundant meat diet, because in their case it would constitute an alimentary excess.

In order, moreover, to be really beneficial, Graham bread must be made of true Graham flour, consisting of the whole grain, especially the bran, finely ground up together, instead of being merely a mixture of bran, rye and ordinary flour, which unfortunately is what is usually sold under that name. It is very easy, however, to recognize the true Graham bread by its homogenous substance, without visible particles of bran, and its distinct, pleasant wheaten odor.—*N. A. Practitioner.*

## PHYSIOLOGY.

### The "Soul" Has Lost its Seat.

The abstract theory advanced by "Descarles" that the pituitary gland is the seat of the soul has at last been exploded, and the proper functions of the gland demonstrated almost beyond a doubt. A summing up of the researches of many experiments upon the lower animals and of observed symptoms in human beings in whom the pituitary body presented pathological conditions, upon section, goes to show that the pituitary is a trophic gland to the nervous system, regulating the chemical composition of the ventriculo-spinal fluid by supplying needed neutralizing acids and eliminating the products of oxidation and metamorphosis.

In rabbits deprived of the gland and in human beings where the gland had undergone pathological changes a marked swelling of the head and thickening of the skin with trophic changes, "akromegali," were observed. The following additional symptoms indicating auto-intoxication of the organism from deficient cerebral metamorphosis and elimination of the products of oxidation were observed in human beings: 1. Headache (frontal); 2. Sense of suffocation; 3. Digestive disturbances; 4. Eye symptoms, first in one, then in the other eye, such as amblyopia, hemianopia, permanent or intermittent amaurosis, strabismus, ptosis and exophthalmia; 4. Dullness and apathy; 5. Impaired memory; 6. Motor disturbances of the muscular system; 7. and, finally, death by coma.—*Pacific Med. Jour. Trans.*